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ST JULIENS CREEK OCEAN CONSTRUCTION EQUIPMENT INVENTORY 1/2

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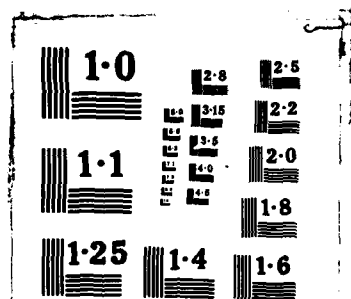
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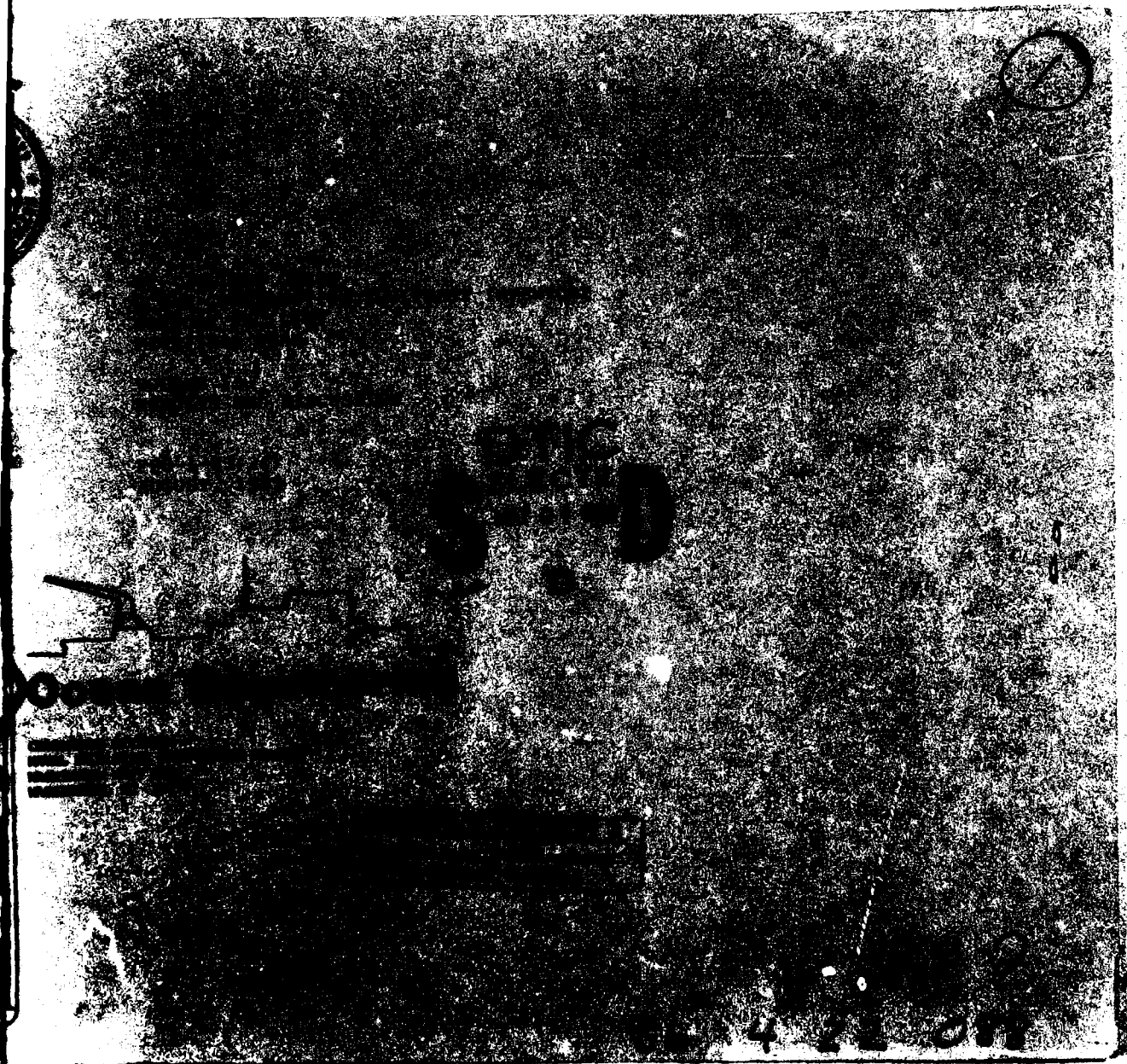


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A Five Year Plan for the OCEI Support Facility at St. Juliens Creek, Ports-
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indicates that existing facility has adequate storage, maintenance, and administrative spaces, but that significant changes and improvements are warranted to meet future support requirements of the OCEI and to increase the facility's efficiency and habitability. Repairs, modifications and additions are proposed to meet these needs. The recommended changes are costed and prioritized for FY84 through FY88. Expeditious decisions regarding the near and long term futures of certain facility components are required in order to insure continuity of operation.

ST. JULIENS CREEK
OCEAN CONSTRUCTION EQUIPMENT INVENTORY
SUPPORT FACILITY
FIVE YEAR PLAN

VOLUME I
Results and Discussions

Prepared By

W.J. Burton

M.M. Walter

Chesapeake Division, Naval Facilities Engineering Command

R.S.C. Munier

T.H. Thomas

Tracor Marine, Inc.

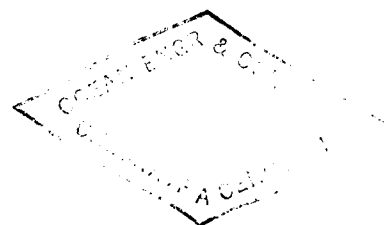
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Washington, D.C.



PREFACE

The purpose of this document is to present the anticipated needs of the OCEI Support Facility at St. Juliens Creek over the next five years. It is a planning document designed to provide sufficient background and data so that the reader can effectively utilize the proposed recommendations and conclusions. The scope of the document is intended to provide the information required to justify appropriation requests.

The plan is intended for use by the Commanding Officer, CHESNAVFACENGCOM and the management of Code FPO-1.

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ABSTRACT

A Five Year Plan for the OCEI Support Facility at St. Juliens Creek, Portsmouth, Virginia, is presented. The plan is developed from internally generated planning documents, information collected in a detailed site assessment, and a Basic Facility Requirements (BFR) study. The analysis indicates that the existing facility has adequate storage, maintenance, and administrative spaces, but that significant changes and improvements are warranted to meet future support requirements of the OCEI and to increase the facility's efficiency and habitability. Repairs, modifications and additions are proposed to meet these needs. The recommended changes are costed and prioritized for FY84 through FY88. Expeditious decisions regarding the near and long term futures of certain facility components are required in order to insure continuity of operation.

EXECUTIVE SUMMARY

A Five Year Plan has been developed for the Ocean Construction Equipment Inventory (OCEI) Support Facility located at the St. Juliens Creek Annex to the Portsmouth Naval Shipyard, Portsmouth, Virginia. The facility is operated by the Ocean Engineering and Construction Project Office (FPO-1) at the Chesapeake Division of the Naval Facilities Engineering Command (CHESNAVFACENGCOM). Its primary mission is to ensure that the OCEI is available to meet Navy ocean construction requirements. Part of a former Navy ammunition depot, the facility is comprised of eight buildings, pier space on the Elizabeth River (Southern Branch), and outdoor storage space totalling over 118,000 square feet. It is manned by nine civil service and three contract personnel.

A Basic Facility Requirements (BFR) analysis of the OCEI facility was conducted according to the guidelines promulgated in NAVFAC P-80. The space required to conduct the OCEI operation was determined by quantifying the work space needed for personnel and the space necessary to store the equipment inventory. Material size and location was determined by conducting a comprehensive inventory. It was determined that the gross interior space BFR is 22,364 square feet. Gross interior space currently comprising the OCEI facility is 30,571 square feet. Similarly, the BFR outdoor space, including net storage and support area, was determined to be 31,848 square feet; over 88,000 square feet is designated for OCEI use at St. Juliens Creek. The results indicate that the area comprising the OCEI facility exceeds that required by BFR. The surplus of space is appropriate to accommodate planned growth. It is noted, however, that loss of one or two of the primary warehouses would reduce the space available below acceptable BFR.

A site assessment was conducted to determine the material needs of the facility. Buildings, support equipment, and exterior spaces were inspected to discover deficiencies and to determine changes which would upgrade present capabilities to better support anticipated requirements. A list of suggested repairs, modifications and additions was generated which, in generic terms, includes the following:

Repairs

- Replace deteriorated doors and windows
- Repair antiquated heating system
- Paint
- Upgrade electrical systems and lighting

Modifications

- Add thermal insulation
- Enlarge cargo doors
- Repartition to alter interior spaces
- Add environmental control to certain spaces

Additions

- Provide utility services (electric, water)
- Construct loading ramps and other access improving items
- Pave gravel areas and driveways
- Provide pallet racks for warehouses
- Upgrade maintenance shop capabilities
- Install a winch load test facility

It was also determined that the warehousing efficiency of the facility could be improved by 1) reorganizing the inventory by material/equipment category, 2) increasing

the use of pallet racks, and 3) instituting an aisle and island storage strategy to facilitate forklift access to all stored material.

Estimates for repairs, modifications and additions at the facility were obtained for all identified items. These estimates were obtained from local contractors. Given the cost and other pertinent logistic information and the technical priorities, an analysis was made to sequence the changes over the five year planning period. The following table summarizes the results of this analysis by location and fiscal year. Costs are given in dollars for the fiscal year in which the money is to be disbursed and were calculated by applying the escalators authorized by the Office of the Secretary of Defense to the contractor estimates.

The estimated costs for the specific items comprising the totals for each building and the hardstand are presented in later chapters of the report. In addition, the type(s) of appropriations to pay for them are indicated.

Costs required to cover in-house administration of planning, document preparation and contract negotiation efforts are estimated by fiscal year. Reorganization costs are provided for the manpower required to rearrange the inventory and furnishings as part of the implementation of plans to improve the operational efficiency of the facility. An estimate of the costs associated with the in-house effort required to obtain BFR review and approval through the chain of command is also provided.

The future of two of the buildings which comprise the OCEI facility is presently indeterminate. Building 45 is

Estimated Annual Expenditures for OCEI Facility
FY 1984 through FY 1988

Bldg.	Fiscal Year			
	1984	1985	1986	1987
43	\$ 20,535	\$ 40,540	\$	\$
45	17,350	9,445	33,065	
83Y	26,475		23,710	
169Z	14,305		27,065	59,000
185	30,290	57,325	33,595	78,000
252	12,963			
Hard-stand	5,265	15,200	630	32,000
	\$127,183	\$122,510	\$118,065	\$170,000
Admin. Costs	16,848	17,673	18,504	19,000
Reorg. Costs	26,034	25,535		
BFR	6,000			
Appr. Annual Totals	\$176,065	\$165,718	\$136,569	\$189,000

located on the Annex pier and may have to be inspected and analysis of the structural in support pilings. This would dictate relocation stored in 45, at least temporarily, until the building is authorized. Permanent relocation to the OCEI facility would degrade operation interior storage space would still exceed BFR

Building 169-Z may be reassigned to the Defense Disposal Office (DDPO) which would reduce the

Estimated Annual Expenditures for OCEI Facility Components
FY 1984 through FY 1988

Bldg.	Fiscal Year					Totals
	1984	1985	1986	1987	1988	
43	\$ 20,535	\$ 40,540	\$	\$	\$	\$ 61,075
45	17,350	9,445	33,065			59,860
83Y	26,475		23,710			50,185
169Z	14,305		27,065	59,290	47,350	148,010
185	30,290	57,325	33,595	78,830		200,040
252	12,963					12,963
Hard-stand	5,265	15,200	630	32,025	152,380	205,500
	<u>\$127,183</u>	<u>\$122,510</u>	<u>\$118,065</u>	<u>\$170,145</u>	<u>\$199,730</u>	<u>\$737,633</u>
Admin. Costs	16,848	17,673	18,504	19,337	20,207	92,569
Reorg. Costs	26,034	25,535				51,569
BFR	6,000					6,000
Annual Totals	<u>\$176,065</u>	<u>\$165,718</u>	<u>\$136,569</u>	<u>\$189,482</u>	<u>\$219,937</u>	<u>\$887,771</u>

located on the Annex pier and may have to be vacated pending inspection and analysis of the structural integrity of the support pilings. This would dictate relocation of the equipment stored in 45, at least temporarily, until further use of the building is authorized. Permanent loss of the building to the OCEI facility would degrade operations, although total interior storage space would still exceed BFR.

Building 169-Z may be reassigned to the Defense Property Disposal Office (DPDO) which would reduce the interior storage

2

space available to the facility significantly below the 22,364 square foot BFR.

Assignment of Building 186 would be an attractive solution to the storage deficiency resulting from the loss of Building 169-Z. Building 186 is located on the waterfront adjacent to the other OCEI facilities and would provide a net increase in interior storage space.

It is recommended that the plans for Buildings 45, 169-Z and 186 be determined expeditiously in order to 1) minimize the disruptive effects of repeated relocation and reorganization, 2) minimize costs, and 3) allow for systematic and rational implementation of OCEI facility plans. The facility's mission readiness is contingent upon operational continuity.

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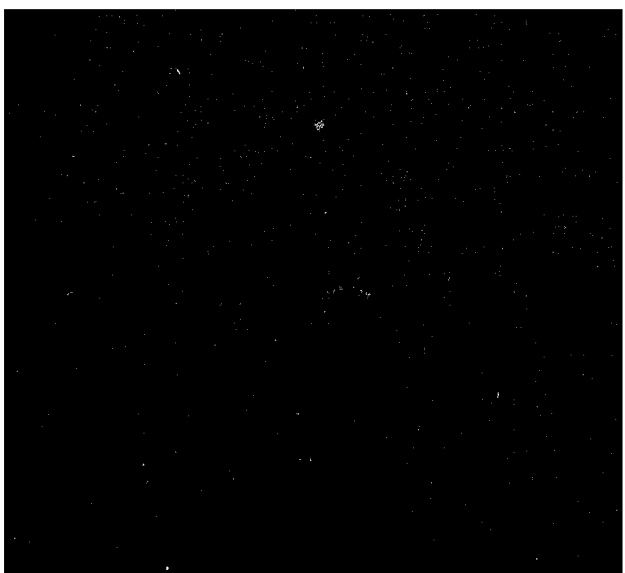
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The authors wish to express their sincere appreciation to Mr. J.H. Kozak, Jr., of the Chesapeake Division (Code FPO-1), Naval Facilities Engineering Command, for his assistance in making the inventory of equipment at the site; to Mrs. Wilma Babecki of Tracor Marine, Inc., for her typing and arranging of the narrative material of this document; and to Mr. Paul Steinberg of Tracor Marine, Inc., for his performance of the drafting services in preparation of the illustrations for the report. In addition, the authors extend their gratitude to personnel of the Facilities Planning Division (Code 441) of Public Works, Norfolk Naval Shipyard, who furnished valuable guidance on matters pertaining to preparation and processing of a Basic Facility Requirements List and who provided insight on the procedural aspects that will be involved in implementing the Five Year Plan in cooperation with the Norfolk Naval Shipyard.

Finally, to each one who has answered a vital question, provided a crucial document and otherwise given a helping hand, your assistance is appreciated.



1.0 INTRODUCTION

The Ocean Engineering and Construction Project Office (Code FPO-1), Chesapeake Division, Naval Facilities Engineering Command (CHESNAVFACENGCOM), Washington, DC, has the responsibility for managing and maintaining an ocean construction equipment inventory (OCEI) required to support Navy ocean construction requirements. CHESNAVFACENGCOM operates a support facility for the OCEI at St. Juliens Creek Annex of the Norfolk Naval Shipyard located at Portsmouth, Virginia. The general area location of the Annex is depicted in Figure 1-1. A detachment from FPO-1 is permanently stationed at the OCEI facility to perform the day-to-day activities to meet mission requirements.

The St. Juliens Creek Annex consists of several hundred acres of land and over one hundred buildings. The general orientation and layout is shown in Figure 1-2. The complex is a former Navy ammunition depot managed under the auspices of the Norfolk Naval Shipyard. Various tenants utilize the buildings, facilities and space comprising the Annex through formal arrangements negotiated with the Shipyard.

The OCEI Support Facility consists of eight buildings and their associated grounds, plus considerable open space and waterfront area within the greater Annex. The particular buildings and their adjoining grounds which comprise the OCEI Support Facility are encircled in Figure 1-2. The major outside storage and staging area is a concrete hardstand located between the wharf and Building 83-Y; it is cross-hatched in Figure 1-2.

The eight buildings and their primary present (1983) usages are as follows:

Building No. 43	Warehouse; contractor office space
Building No. 45	Warehouse
Building No. 83-Y	Warehouse/staging area
Building No. 169-Z	Warehouse (long-term, "dead" storage)
Building No. 185	First Floor: Shops Second Floor: FPO-1 offices
Building No. 209-X	Paint locker
Building No. 252	Main FPO-1 office, administration
Building No. 273	Paint Locker

In addition to the aforementioned facilities, CHESNAVFACENGCOM uses about 38,000 square feet of outdoor space to store approximately 200 reels of electrical cable at Cheatham Annex, Williamsburg, Virginia, which is approximately fifty miles northwest of St. Juliens Creek Annex. This area is used under a Temporary Space Authority approved by the Commanding Officer, Naval Supply Center, Norfolk, Virginia. The area at Cheatham Annex supplements the OCEI Support Facility, although it is not considered part of the installation at St. Juliens Creek.

1.1 Mission

The OCEI is a controlled inventory that contains special ocean construction equipment, including the Ocean

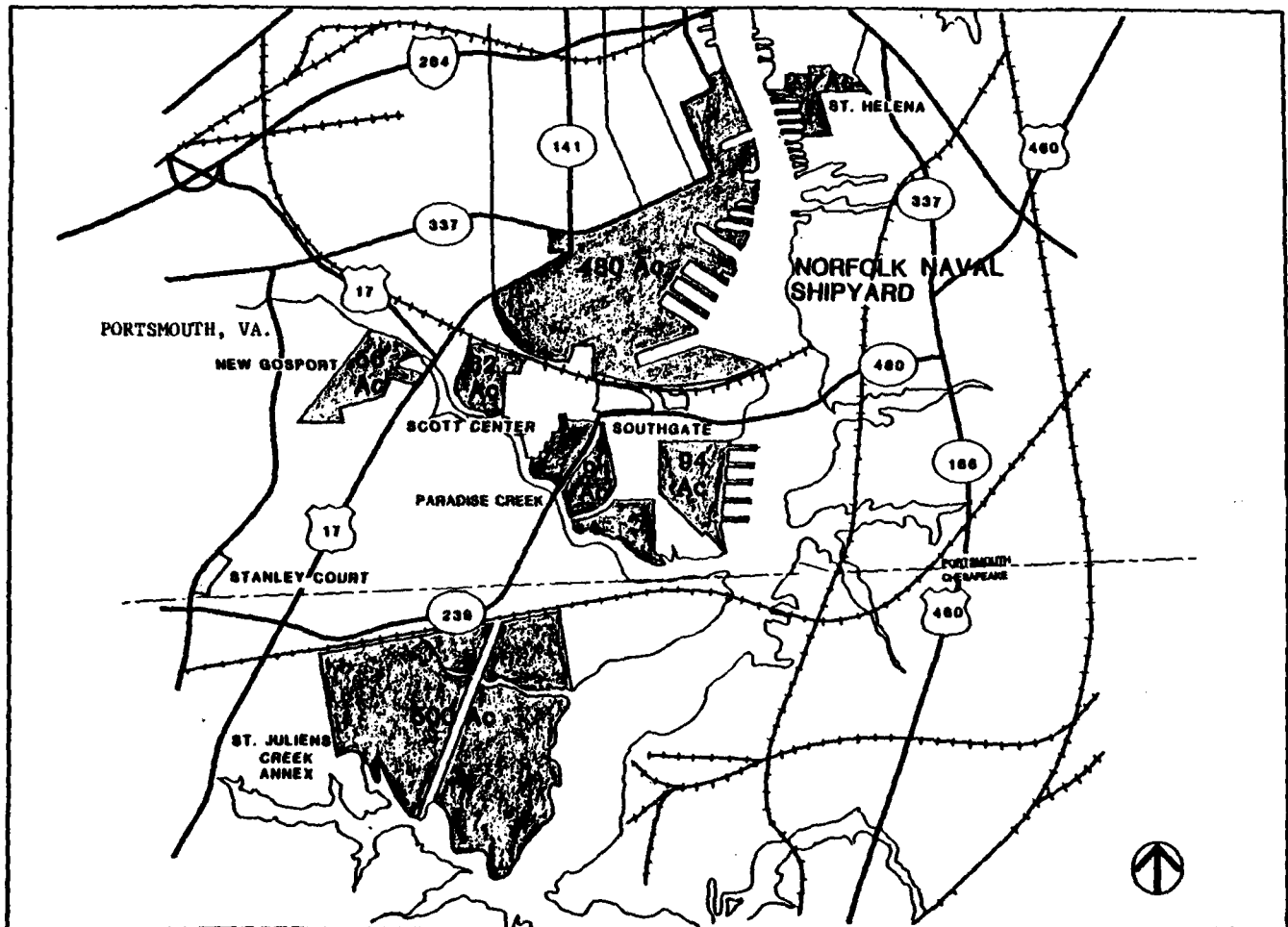
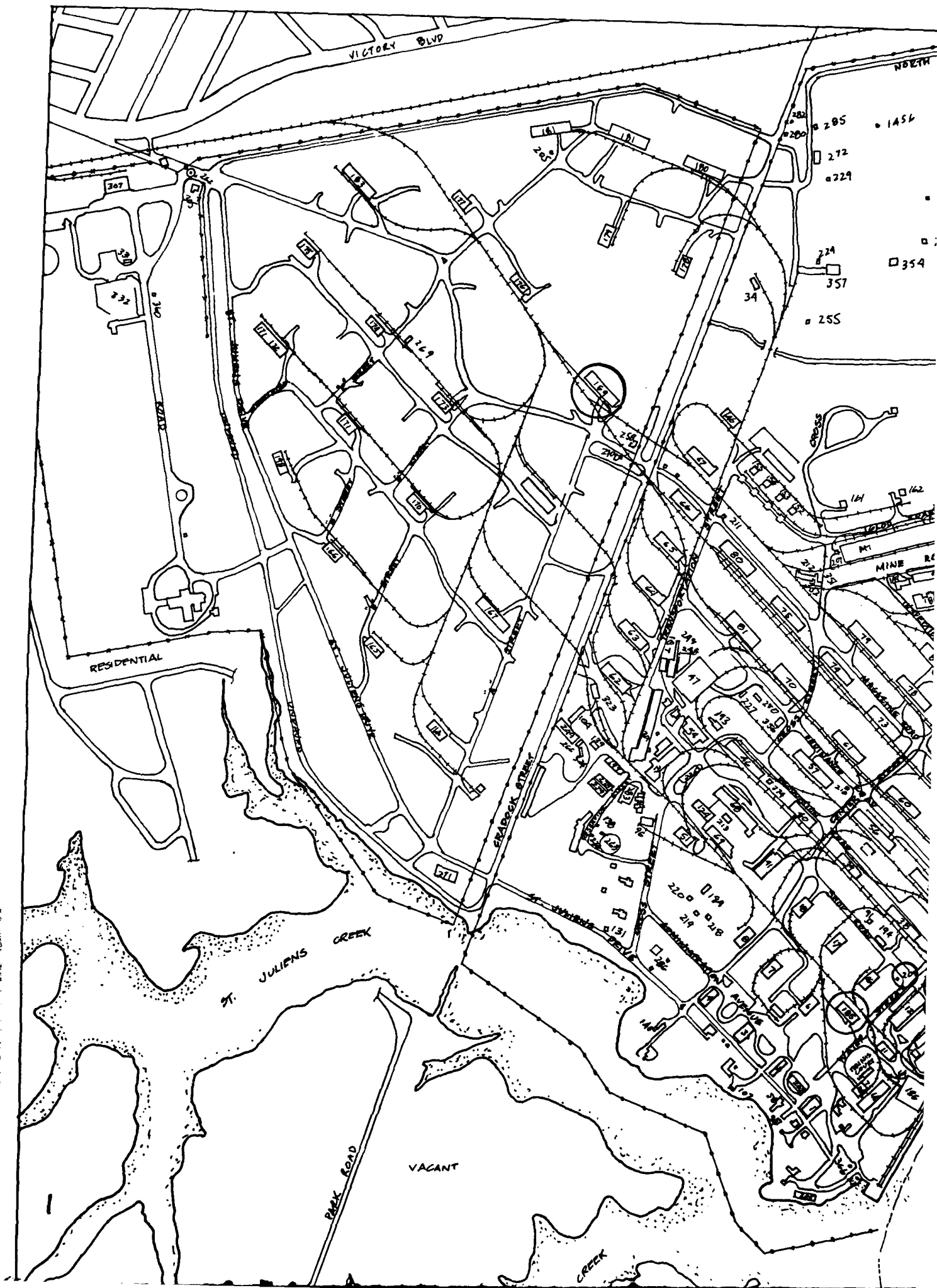
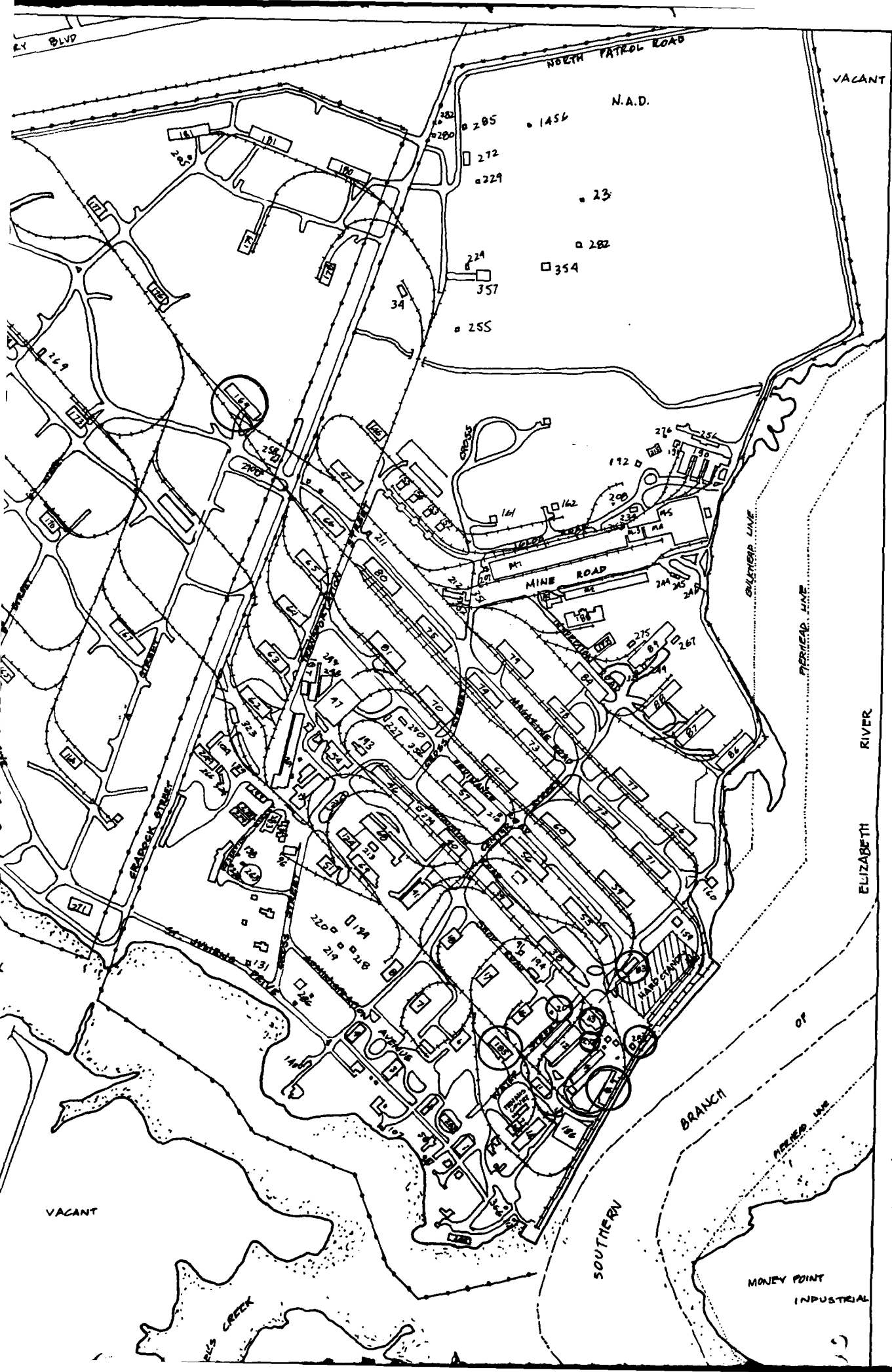


Figure 1-1: Area Location of St. Juliens Creek Annex.
(Adapted from reference 5).





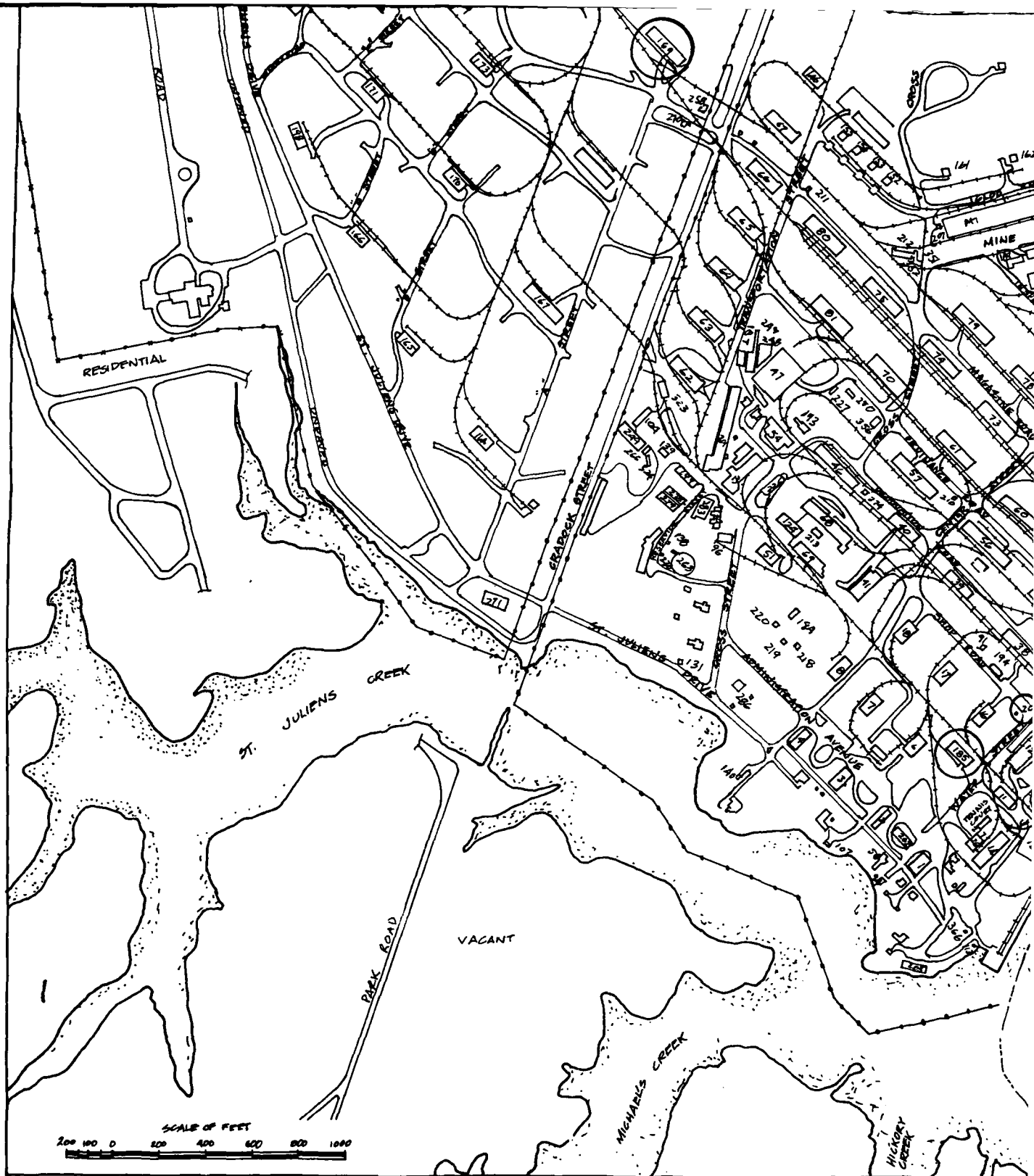


Figure 1-2: Locator Map, St. Juliens Creek.
Buildings comprising OCEI Support
Facility encircled; Hardstand
cross-hatched.

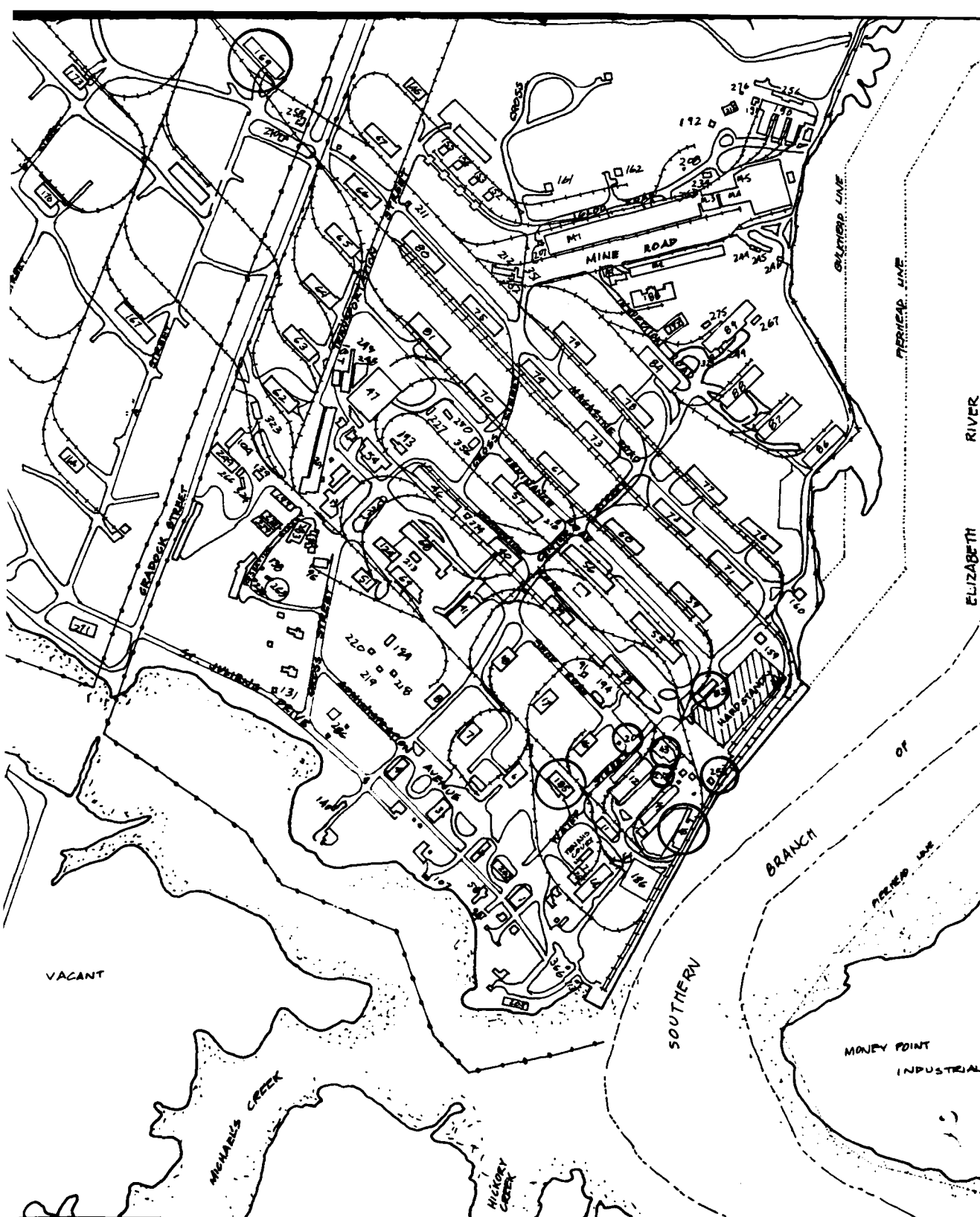


Figure 1-2: Locator Map, St. Juliens Creek. Buildings comprising OCEI Support Facility encircled; Hardstand cross-hatched.

Construction Platform (OCP) SEACON and ocean facilities components.

The management policy for the OCEI is promulgated in an Instruction from the Commander, Naval Facilities Engineering Command, NAVFACINST 11261.5A, dated 16 April 1979, a copy of which is included in reference 1. This Instruction assigns the Commanding Officer, CHESNAVFACENGCOM, the responsibility for equipment procurement, storage, maintenance, repair, refurbishment, modification and disposition. In addition, it also assigns him the responsibility for establishing and promulgating loan procedures and policies for equipment, for maintaining records on equipment, and for providing operator and maintenance training for personnel. Finally, the Instruction stipulates the St. Juliens Creek Annex, Portsmouth, Virginia, as a site for storage and maintenance of the OCEI.

In keeping with the above Instruction and as a prelude to developing the five year plan, the study team, in cooperation with the management of FPO-1 and the Ocean Facilities Program Office (Code PC-2) of the Naval Facilities Engineering Command, formulated the following Mission Statement for the facility:

The mission of the St. Juliens Creek OCEI Support Facility is to provide operations, logistics, industrial and administrative support necessary to ensure that the OCEI serves expeditiously the Naval Construction Force (NCF) and other ocean construction requirements of the Navy. More specifically, the facility provides for the receipt, inspection, inventory, storage, repair, maintenance, operator training, loan and shipment of all OCEI items. The OCEI is a controlled inventory and the items are maintained on a ready-for-issue condition so that, except for the construction platform

SEACON, response to the NCF and other Navy requirements can be attained on 48 hours notice. The facility provides material and personnel support required for the operation and maintenance of deployed OCEI assets, including certified operators where required for specialized equipment such as the Propellant Embedment Anchor (PEA) systems. The facility provides operational support (staging, training, material and personnel) for Navy ocean construction projects.

1.2 Purpose

The OCEI Support Facility must be adequate to effectively support operations involving the OCEI. OCEI operations are subject to change, depending on the needs of the Navy. Therefore, advanced planning must be done so that shortfalls in capabilities of the support facilities are avoided. Moreover, the facility must have routine maintenance, modifications and upgrading of facility support equipment so that its mission can be accomplished. Accordingly, this five year plan has been generated to provide for timely identification and implementation of repairs, modifications and additions to the physical plant and to schedule the acquisition of required support equipment at the opportune time.

The plan will present and prioritize the tasks to be accomplished by fiscal year and will indicate the type(s) of appropriations to be used to pay for them. In the interest of streamlining the operations at the facility, the functions and processes that take place there will be examined and recommendations will be made for improving the efficiency of utilization of resources, including space and personnel.

1.3 Approach

This five year plan is a follow-up to requirements identified and outlined in reference 2 following a general inspection and review of the overall status of the OCEI Support Facility. After the issuance of reference 2, a scoping document, reference 3, was promulgated to define the tasks to be accomplished in developing and documenting the plan.

An on-site assessment was made to determine what specific repairs, modifications and additions were needed at the facility. During a visit to the site, detailed notations concerning the use(s), conditions and requirements pertaining to each building and outside staging/storage area were made and systematically recorded on prepared check sheets. This information was subsequently used to compile listings of repairs, improvements and additions, along with corresponding estimates of costs and schedules needed to expedite the implementation of the maintenance and improvement items for the OCEI Support Facility.

In order to quantify and document the space requirements of the facility, the scope (reference 3) for the plan was expanded to include the data acquisition to establish a Basic Facility Requirements (BFR) list. This necessitated making an inventory of all equipment, consumables, spare components for ocean construction, etc., at the facility.

The BFR was determined in accordance with instructions given in NAVFAC P-80, reference 4, for performing a simplified industrial engineering analysis for a one-of-a-kind facility.

Performing the inventory had the added benefit of providing a more thorough identification of where specific items are stored at the facility than was obtained during the on-site assessment when the major emphasis was centered on the conditions and requirements of the physical plant. Observing first-hand the placement of the inventory helped identify opportunities for consolidating the storage of items belonging to the same general classification of equipment. In addition, it facilitated the recognition of possibilities for streamlining the basic functions performed at the facility which, in turn, will improve the efficiency of operation.

The basic data that were gathered during the on-site assessment and during the making of the inventory, plus the worksheets used in transforming the data and summarizing them into a form suitable for presentation in the five year plan, have been compiled in a separate volume as an appendix to this report.

For purpose of presentation and general discussion, the material at the OCEI Support Facility was broken down into four broad categories. These categories are as follows:

- a. Tools - these are implements used by hand and of a size such that they can be easily hand carried. Examples are wrenches, hammers, hydraulic jacks, etc.
- b. Dedicated equipment - these are items that are assigned to a particular building, area or to the support facility and that remain in that vicinity as the equipage used in

performing the day-to-day, on-site operations. Examples are workbenches, hydraulic presses, band saws, forklifts, desks, chairs, etc.

- c. OCEI items - these are, primarily, the items listed in the catalog, reference 1, and kept in ready-for-issue (RFI) status and available for loan or assignment to projects. Examples are cable splicing equipment, cable reels, split pipe protection assemblies, winches, embedment anchors, the ocean construction platform SEACON, electronic testing equipment, underwater television camera, etc.
- d. Non-OCEI items and spares - these are items of equipment that were procured for use on specific projects and then retained, plus assorted items that make up the supply of spare parts, appurtenances for the OCEI equipment, consumables, etc. Examples are wire rope, manila rope, chains, plumbing supplies, nuts, bolts, lumber, blankets, etc.

The divisions among the above categories of material are not well defined in all cases; however, the above breakdown helps to identify various equipment with the function they serve and the kind of appropriation needed to procure them. Indeed, alternative breakdowns based on the items' application are used in analyzing

the utilization of space, as presented in Chapters 3.0 and 4.0.

Having identified the repairs, modifications and additions needed at the OCEI Support Facility, the costs to accomplish them were determined. These individual needs were then prioritized giving the highest priority to those items that would offer the most enhancement to the serviceability of the facility in the performance of its mission. The assignment of priorities was tempered by the kind and amount of appropriations that would be required to procure a given element. Furthermore, in cases where a building's future availability as part of the OCEI Support Facility is in an indeterminate status, major modifications of the building were scheduled in the later years of the five year plan.

Layouts of the buildings and grounds and of the outside storage area have been prepared to show present and proposed arrangements of equipment. Where feasible, the modifications and additions to the facilities are indicated on the layouts. Tables have been prepared that itemize the requirements and their costs for each building and/or outside storage area. Justifications for the requirements are presented in the accompanying narrative.

1.4 Assumptions

Several fundamental assumptions were made to serve as guidelines in developing the five year plan. These assumptions are as follows:

- a. The five year plan is to address the requirements of the facility from the standpoint of

its adequacy to support the OCEI and is not to concentrate on the OCEI itself.

- b. The requirements of the OCEI Support Facility are to be determined in accordance with criteria established by the Naval Facilities Engineering Command.
- c. A BFR list is to be prepared that will document the space requirements of the facility and will serve as a basis for justifying recommendations for modifications and additions at the facility. Obtaining review and approval of the BFR will be included as part of the plan.
- d. All equipment, spare parts, supplies, etc., with the exception of the Verne winch and the cranes, are assumed to be eventually stored in sheltered space.
- e. Recommendations are to be made for streamlining the present (1983) arrangements for storage of equipment, supplies, etc., and for improving the overall efficiency of operations.
- f. The first year covered in the five year plan will be fiscal year (FY) 1984; the fifth year will be FY 1988.
- g. The nominal sum of appropriations of Operations and Maintenance, Navy (OMN),

funds to be used for facility upgrade for any given fiscal year shall be less than \$150,000.

- h. Projected costs for various items shall be presented in terms of dollars for the FY that they are to be disbursed.
- i. The official escalators provided by the Office of the Secretary of Defense (reference 6) shall be used in predicting costs for construction and for purchase of equipment, tools, etc. (These escalators will result in some overpricing of projected costs for tools and equipment; however, costs of such items will constitute a relatively small quantity with respect to the total disbursements.) The escalators for the fiscal years affected are as follows:

FY 1984	-	5.3%
FY 1985	-	4.9%
FY 1986	-	4.7%
FY 1987	-	4.5%
FY 1988	-	4.5%

The final results presenting the proposed scheduling, costs, and prioritization of work and acquisitions by fiscal year are summarized in Section 5.

Volume I of this five year plan contains the results and full discussions of all aspects of the plan. Volume II is an Appendix and contains the raw data and work documentation upon which the plan is based.



2.0 BASIC FACILITY REQUIREMENTS

This section documents the facility requirements necessary to accomplish the mission objectives outlined in Section 1.1. These requirements are determined by quantifying the personnel which must be supported and the equipment inventory which must be stored and maintained at the existing OCEI Support Facility. From this information, a Basic Facility Requirements List is generated in order to quantify the required space and to justify funding requests for future improvements and upgrading of the facility.

2.1 Facility Description

The OCEI Support Facility has very specialized mission objectives which are detailed in sub-section 1.1. The following paragraphs will present the facility's primary function, its relationship with other activities, the basis for its original authorization, the types of projects it supports, the internal functional elements it provides, and references that provide further in-depth information pertaining to the facility.

2.1.1 Primary Function

The OCEI Support Facility's primary function is to support Ocean Construction Projects for the Navy and to provide a home berth for the SEACON. A more detailed discussion of the facility's mission is discussed in Section 1.1.

2.1.2 Relationship with Operational Components

Due to its worldwide responsibility to provide ocean engineering and construction, the work done by the Chesapeake Division, Naval Facilities Engineering Command (CHESNAVFACENGCOM) often transcends the

jurisdictional boundaries of other field the Naval Facilities Engineering Command. The key operational support effort is provided by the OCEI Support Facility which is managed by the Naval Facilities Engineering Command from Code FPO-1, CHESNAVFACENGCOM. Logistics support are provided by the Support of the Naval Amphibious Base at Little Creek. A contractor provides the crew for the warehousing services.

As described in Chapter 1, the OCEI Support Facility is located at St. Juliens Creek Annex of the Shipyard. In 1978 CHESNAVFACENGCOM entered into a Host/Tenant agreement with the Shipyard for support services. This consists of the use of Buildings 43, 45, 83-Y, 169-Z, 185, and the Hardstand Area. The support services include building maintenance, use of roads and mail pick-up and delivery, routine safety, normal police and fire protection, I.D. telephone services, utilities, vehicle janitorial services.

2.1.3 Authorization Requirements by Headquarters

The Ocean Engineering and Construction Facility (Code FPO-1) was established within CHESNAVFACENGCOM on 1 July 1971. NAVFAC established the Engineering and Construction Program equivalent in December 1974. NAVFACINST 11261.5A assigned responsibility for this inventory to CHESNAVFACENGCOM and stipulated that the OCEI Support Facility be based at the St. Juliens Creek Annex. CHESNAVFACENGCOM INST 4860.1 of 11 July 1975 (reference 1) for the use of this inventory.

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jurisdictional boundaries of other field divisions of the Naval Facilities Engineering Command (NAVFAC). The key operational support effort is provided by the OCEI Support Facility which is managed by personnel from Code FPO-1, CHESNAVFACENGCOM. Logistics and procurement support are provided by the Supply Department of the Naval Amphibious Base at Little Creek, Virginia. A contractor provides the crew for the SEACON and shore warehousing services.

As described in Chapter 1, the OCEI Support Facility is located at St. Juliens Creek Annex of the Norfolk Naval Shipyard. In 1978 CHESNAVFACENGCOM entered into a Host/Tenant agreement with the Shipyard for space and support services. This consists of the floor space in Buildings 43, 45, 83-Y, 169-Z, 185, 252, 273, and the Hardstand Area. The support services include normal building maintenance, use of roads and grounds, parking, mail pick-up and delivery, routine safety inspections, normal police and fire protection, I.D. badges and passes, telephone services, utilities, vehicle rental and janitorial services.

2.1.3 Authorization Requirements by Higher Headquarters

The Ocean Engineering and Construction Project Office (Code FPO-1) was established within CHESNAVFACENGCOM on 1 July 1971. NAVFAC established the Ocean Facilities Engineering and Construction Program equipment inventory in December 1974. NAVFACINST 11261.5A (reference 1) assigned responsibility for this inventory to CHESNAVFACENGCOM and stipulated that the OCEI Support Facility was to be based at the St. Juliens Creek Annex. CHESNAVFACENGCOM-INST 4860.1 of 11 July 1975 (reference 1) established guidelines for the use of this inventory.

FPO-1 and the OCEI Support Facility receive funds through the Chesapeake Division from NAVFAC. These funds are based on annual, proposed budgets and include both Other Procurements, Navy (OPN) and Operations and Maintenance, Navy (O&MN) monies.

2.1.4 Facility Utilization

FPO-1 has supported many diverse and successful ocean-related projects using the OCEI assets stored and maintained at this facility. The SEACON and other OCEI assets were used to install Propellant Embedment Anchor (PEA) systems for fleet moorings at Diego Garcia; to install the Linear Chair Underwater Range; to inspect the completed towers for the Tactical Aircrew Combat Training Systems (TACTS); to support several projects involving cable systems installation and repair, notably the expansion of the Atlantic Fleet Weapons Training Facility (AFWTF) at St. Croix; and to conduct projects to provide repair and maintenance of the Atlantic Undersea Test and Evaluation Center (AUTEC). Other projects using OCEI assets include installation of sewer-outfalls and underwater test ranges, underwater inspections and underwater site surveys.

2.1.5 Internal Functional Elements

A facility of this type has special internal functional requirements. The SEACON and OCEI project operations require operational and logistic support. The SEACON and OCEI items maintained in ready-for-issue (RFI) condition require support for mobilization/demobilization, overhaul, storage, maintenance and security services. Facility operations require shipping, receiving and

inventory control functions. Pe general administration, evaluati timekeeping functions.

2.1.6 References to Other Pu More Specific Data

The following publications will concerning the items discussed i sections:

- a. The OCEI catalog (refere equipment which must be RFI status.
- b. The 1982 Host/Tenant Agr tion #2) (reference 7) b and the Norfolk Naval Sh space and categories of
- c. Temporary Space Authorit provides storage space a
- d. NAVFACINST 11261.5A and 4860.1 (reference 1) dis management of the equipm
- e. The 1986 Norfolk Naval S provides facility inform Annex.

2.2 Planning Factors

The OCEI Support Facility was es order to determine whether the F quate to accomplish its mission

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inventory control functions. Personnel require
general administration, evaluation, training and
timekeeping functions.

2.1.6 References to Other Publications with More Specific Data

The following publications will provide specific data
concerning the items discussed in the previous sub-
sections:

- a. The OCEI catalog (reference 1) lists the
equipment which must be maintained in an
RFI status.
- b. The 1982 Host/Tenant Agreement (modifica-
tion #2) (reference 7) between CHESNAVFACENGCOM
and the Norfolk Naval Shipyard, lists floor
space and categories of support services.
- c. Temporary Space Authority 73-M (reference 8)
provides storage space at Cheatham Annex.
- d. NAVFACINST 11261.5A and CHESNAVFACENGCOMINST
4860.1 (reference 1) discuss the policy for
management of the equipment inventory.
- e. The 1986 Norfolk Naval Shipyard Master Plan (reference 5)
provides facility information on the St. Juliens Creek
Annex.

2.2 Planning Factors

The OCEI Support Facility was established in 1978. In
order to determine whether the Facility is still ade-
quate to accomplish its mission objectives, guidelines

from the NAVFAC P-80 (reference 4) were used. NAVFAC P-80 provides planning factors only for standard Navy shore-based facilities. Since the OCEI Support Facility is a one-of-a-kind activity, no planning factors are available.

2.3 Justification for Scope of the Facility

For one-of-a-kind facilities, NAVFAC P-80 (reference 4) provides the facility description, but requires the planner to develop a detailed justification of space based on an industrial engineering analysis of operations. This analysis defines the functions to be accommodated, the space needed for each function, the support space required, and the number and organizational status of personnel. The resulting analysis determines the amount and type of space necessary to support the facility's functions.

A detailed equipment inventory was conducted for the existing facility to determine the personnel, operations and equipment currently accommodated. However, the industrial engineering analysis determines how this space should ideally be apportioned for each function, not how it is actually organized at present. For example, a large amount of equipment and material currently stored on the Hardstand Area should actually be provided with sheltered storage. This analysis reflects such differences between the existing facility and a required facility. The required facility is a hypothetical facility that is capable of storing and maintaining the types and amount of equipment and material at the existing OCEI Support Facility.

2.3.1 Industrial Engineering Analysis

There are two methods for accomplishing the analysis. One method is to prepare a scale drawing showing every operational feature and its corresponding working or access space requirements. A second method is to conduct a detailed equipment inventory to obtain the sizes of all the equipment and material at the facility. The latter method was chosen. This detailed inventory is in Section A of the Appendix which is bound as a separate volume of this report.

Each building was assigned a specific category code from the NAVFAC P-80 (reference 4) to be used later in calculations. Table 2-1 provides the category code and general title for each building.

Next, the functions performed at the existing facility were defined. Data tables were created which listed the equipment and material by function. These tables are provided in Section B of the Appendix.

Formulas from NAVFAC P-80 (reference 4) were used to determine the net storage space and support space. The sum of the net storage space and the support space resulted in the total gross square footage required for the facility. This process is described in detail in the Appendix. Summary tables are provided in subsequent paragraphs of this section. Minor discrepancies between numerical values of corresponding quantities will appear as a result of rounding off of numbers.

2.3.2 Functions to be Accommodated

In order to accomplish its mission objectives, the required facility should be capable of providing six major

functions. These six functions embody the internal functional elements discussed in 2.1.5 and are as follows:

- a. The environmentally controlled function provides an area of controlled humidity and temperature for the storage of sensitive electronics.
- b. The sheltered storage function provides an area for items needing protection from the adverse effects of sun, rain and salt spray.
- c. The open storage function provides an area for items too large to be stored inside and for items needing no protection from the environment.
- d. The maintenance and repair function provides electronic and mechanical shop areas and the corresponding equipment and tools.
- e. The logistic support function provides the areas and materials for shipping, receiving and equipment transfer.
- f. The administrative function provides office, library and conference space.

Table 2-1

CATEGORY CODE AND GENERAL TITLE
FOR EACH BUILDING

Bldg. #	NAVFAC P-80 Category Code	General Title
43	441-10	General Purpose Warehouse
45	143-77	Operational Storage
45-Shed	441-35	General Storage Shed
83-Y	143-77	Operational Storage
169-Z	143-77	Operational Storage
185	213-30	Shore Intermediate Maintenance Activity
209-X	441-30	Hazardous & Flammables Storehouse
252	610-10	Administrative Office
273	441-30	Hazardous & Flammables Storehouse
Hard-stand	451-10/153-10	Open Storage Area/Cargo Staging Area
Cheatham Annex	451-10	Open Storage Area

2.3.3 Net Storage Space Required for Each Function

Net storage space refers to the theoretical floor area which is covered by equipment and material. This figure includes the working space necessary, for example, to operate a piece of equipment. This figure does not include the aisle space necessary to gain access to an item or the lost space due to internal obstructions and external walls. This support space will be discussed in 2.3.4.

The net storage space requirement was determined by calculating the storage space from the equipment inventory (Appendix - Section A) and modifying this figure to account for the percentage of items stored in a stacked configuration (Appendix - Section C). Tables providing the calculated and net storage space required for each function are provided in Section D of the Appendix. Table 2-2 provides the net storage space by function and equipment category for the facility. Table 2-2 also lists the buildings where items are currently stored. This information can be cross-referenced with Table 2-1 to determine the type of storage space presently required.

2.3.4 Support Space Requirements

The support space consists of the theoretical space required for aisles and maneuvering and the theoretical space lost due to internal obstructions and external walls. This space is determined by multiplying factors from the NAVFAC P-80 (reference 4) by the net storage space discussed in sub-section 2.3.3.

These factors are based on the building's category code (see Figure 2-1). This process is detailed in Section C of the Appendix. The total support space required for the St. Juliens Creek Annex is given in Table 2-3 as 25,369 square feet.

2.3.5 Number and Organizational Status of Personnel

This facility must provide space and support for the following personnel:

Manager, OCEI Support Facility	Storekeeper
Secretary	Warehouseman (2)
Equipment Specialist (OCEI)	
Equipment Specialist (SEACON)	
Equipment Specialist (Electronics)	
Equipment Specialist (Marine)	
OCEI/SEACON Logistics	
Equipment Specialist (Electronics/PEA)	
Equipment Specialist (Marine/PEA)	

2.4 Comparison of Space Needed to Space Available

The space available at the OCEI Support Facility is currently adequate to accomplish the facility's need. However, a comparison between needed and available space must be carefully done, because the type of space is as critical as the amount of space. Table 2-3 presents the results of the BFR that has been performed and lists the space currently needed for each function. The total space available in the facility's buildings will be discussed separately from the space available for outside storage.

Table 2-2

REQUIRED NET STORAGE SPARES

Function	Net Storage Space Used by Each Equipment Category *(Ft ²)					Notes
	Tools	OCEI	Non-OCEI & Spares	Dedicated Equipment	Totals	
A. Environmentally Controlled Storage	---	575	77	113	765	Tools - None OCEI - Bldgs. 43,185 Non-OCEI & Spares - Bldgs. 43,185 Dedicated Equipment - 185
B. Sheltered Storage	---	3808	9258	73	13,139	Tools - None OCEI - Bldgs. 43,45,169,185,Hardstand Non-OCEI & Spares - Bldgs. 43,45,83, 169,185, Hardstand Dedicated Equipment - Bldgs. 43,45,185
C. Open Storage	---	1904	3225	---	5129	Tools - None OCEI - Hardstand Non-OCEI & Spares - Hardstand, Cheatham Annex Dedicated Equipment - None
D. Maintenance/ Repair	39	225	---	416	680	Tools - Bldgs. 43,45 OCEI - Bldg. 185 Non-OCEI & Spares - None Dedicated Equipment - Bldgs. 45,83,169, 185
E. Logistic Support	---	---	322	459	781	Tools - None OCEI - None Non-OCEI & Spares - Bldgs. 43,83,169 Dedicated Equipment - Bldgs. 43,45 Shed, 169,185
F. Administration/ Office	---	---	134	1590	1724	Tools - None OCEI - None Non-OCEI & Spares - Bldgs. 43,45,185 Dedicated Equipment - Bldgs. 43,83,169, 185, 252

*This figure does not include support or lost space.

Table 2-3 OCEI SUPPORT FACILITY TOTAL SPACE REQUIREMENT

Space Description	Space Required (Ft ²)
I. Net Storage Space	
Environmentally-controlled Storage	765
Sheltered Storage	13,139
Open Storage	5,129
Maintenance and Repair	680
Logistic Support	781
Administrative	1,724
Subtotal ₁ (cf Vol. II page C-1)	22,218
II. Support Space (cf Vol. II page C-1)	<u>25,369</u>
Subtotal ₂	47,587
III. Cheatham Annex	<u>12,285</u>
Grand Total	53,127

The gross space currently needed for all functions except open storage is 22,364 square feet. The gross space currently available in the buildings is 30,571 square feet. (See Table 2-4). However, additional space will be needed in the future to accommodate new equipment and capabilities which are to be added. For instance, plans detailed in Section 4.0 propose the addition of an interior stairway and a diesel overhaul shop in

Building 185. Although the stairway will be in the existing old dumbwaiter shaft, its use will reduce available office and shop space, while the overhaul shop will increase the maintenance and repair space needed. Also, an updated computer capability is planned for the facility which will increase the administrative space needed. Although no specific projects have currently been identified which will require equipment that will impact the facility, this could change the space needed for equipment storage. The exact increase in space needed due to these future changes is not known; however, an estimate of 5000 square feet of additional inside storage will be assumed to be needed to accommodate all of the above-mentioned possibilities. This will result in the utilization of $22,364 + 5000 = 27,364$ square feet of space and, therefore, will leave only $30,571 - 27,364 = 3,207$ square feet of surplus inside space for future expansion.

The loss of Buildings 45 and 169 proposed by the Norfolk Naval Shipyard Master Plan (reference 5) would reduce the space available by 15,150 square feet. (See Table 2-4.) Therefore, any building proposed as a replacement for these buildings should have a floor space of at least 15,150 square feet.

The outside storage area will also be affected by future changes. The gross space currently needed for the open storage function is 31,848 square feet. This figure consists of a net storage and support area of 11,848 square feet* needed for open storage of equipment and material and an estimated open area of approximately 20,000 square feet to serve as a cargo staging area for project preparations. The gross space currently available in the Hardstand Area is 88,000 square feet and at Cheatham

*The 11,848 square feet figure consists of the 5129 square feet of material which will remain in open storage multiplied by the category code factor. See Sections C and D of the Appendix in Volume II.

Annex is 38,000 square feet, for a total of 126,000 square feet. (See Table 2-4.) Although these figures indicate sufficient available space for open storage and cargo staging, future plans must be taken into account. Plans outlined in Section 4.0 propose the installation of a winch testing facility which will require open storage space. Also, although current plans indicate a transfer of only twenty cable reels from Cheatham Annex to the Hardstand Area, this condition could change, requiring 12,285 square feet of space on the Hardstand Area to store all 210 cable reels (See Table 2-4.)

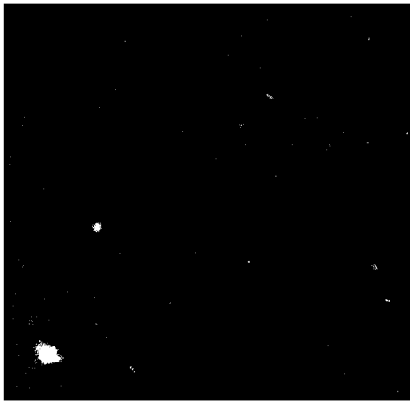
Table 2-4 Determination of Gross Space Required

Bldg.	Actual Floor Space (Ft ²)	Required Space from BFR (Ft ²)		
		Net Storage Space	Aisle/Lost Space	Total Gross Space
43	5,222	2,274	1,797	4,071
45	5,100	1,901	1,843	3,744
45-Shed	800	56	54	110
83-Y	1,633	707	685	1,392
169-Z	10,250	3,224	4,222	7,446
185	7,700	2,425	2,351	4,776
209	165	165	---	165
252	620	463	116	579
273	81	81	---	81
Sub-totals	30,571	11,296	11,068	22,364
Hard-stand	88,000	10,917	14,301	25,218
Totals (St.J)	118,571	22,218	25,369	47,582
Cheatham Annex	38,000	5,318	6,966	12,285

A BFR done by Public Works Planning Division, Norfolk Naval Shipyard (reference 9) in December 1981, indicates a total need for 29,000 gross square feet (GSF) inside. This figure does not include Buildings 209 and 273. Nor does it account for the large amounts of equipment which have been procured in the past years to support the facility's mission and various ocean projects. Also, this figure does not account for the facility's increased mission requirement to support PEA systems. The new BFR, performed in conjunction with this five year plan, indicates a requirement for 47,587 GSF. (See Table 2-3.) This BFR is based on a detailed equipment inventory and analysis of the present facility.

Formal review and approval of the BFR list developed herein is to be accomplished during the early stages of implementing the five year plan. An estimate of the costs associated with performing this effort is given in Chapter 5.

In conclusion, this analysis shows the space available is sufficient for the facility's present needs, but changes proposed for the future could greatly impact the type and amount of space required. Sections 3.0 and 4.0 will discuss the future planned changes to the facility.



3.0 SITE ASSESSMENT

This chapter documents the status of the existing building and grounds of the OCEI Support Facility; identifies the repairs, modifications and additions which will make each building more functional; and assesses the present facility as an entity. A detailed discussion of proposed changes, their costs and their priority, will follow in Chapter 4.0. Some changes may not prove to be viable when subjected to later analysis.

3.1 General

This subsection addresses several important preliminary aspects of the site assessment. Figure 3-1 shows the general arrangement of the buildings and other facilities at the St. Juliens Creek Annex. The particular buildings and grounds that comprise the OCEI Support Facility are encircled. Plan views of the individual buildings and grounds are covered in later subsections.

3.1.1 Purpose

This study was conducted to determine several important factors:

- the existing status of the facility;
- the identification of repairs, modifications and additions needed to support present and future requirements;
- the identification of any safety requirements to comply with Occupational Safety and Health Administration (OSHA) regulations;

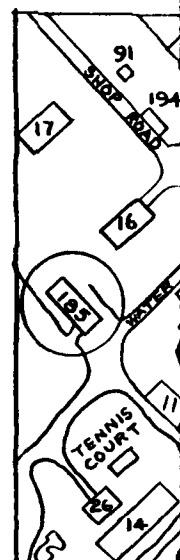
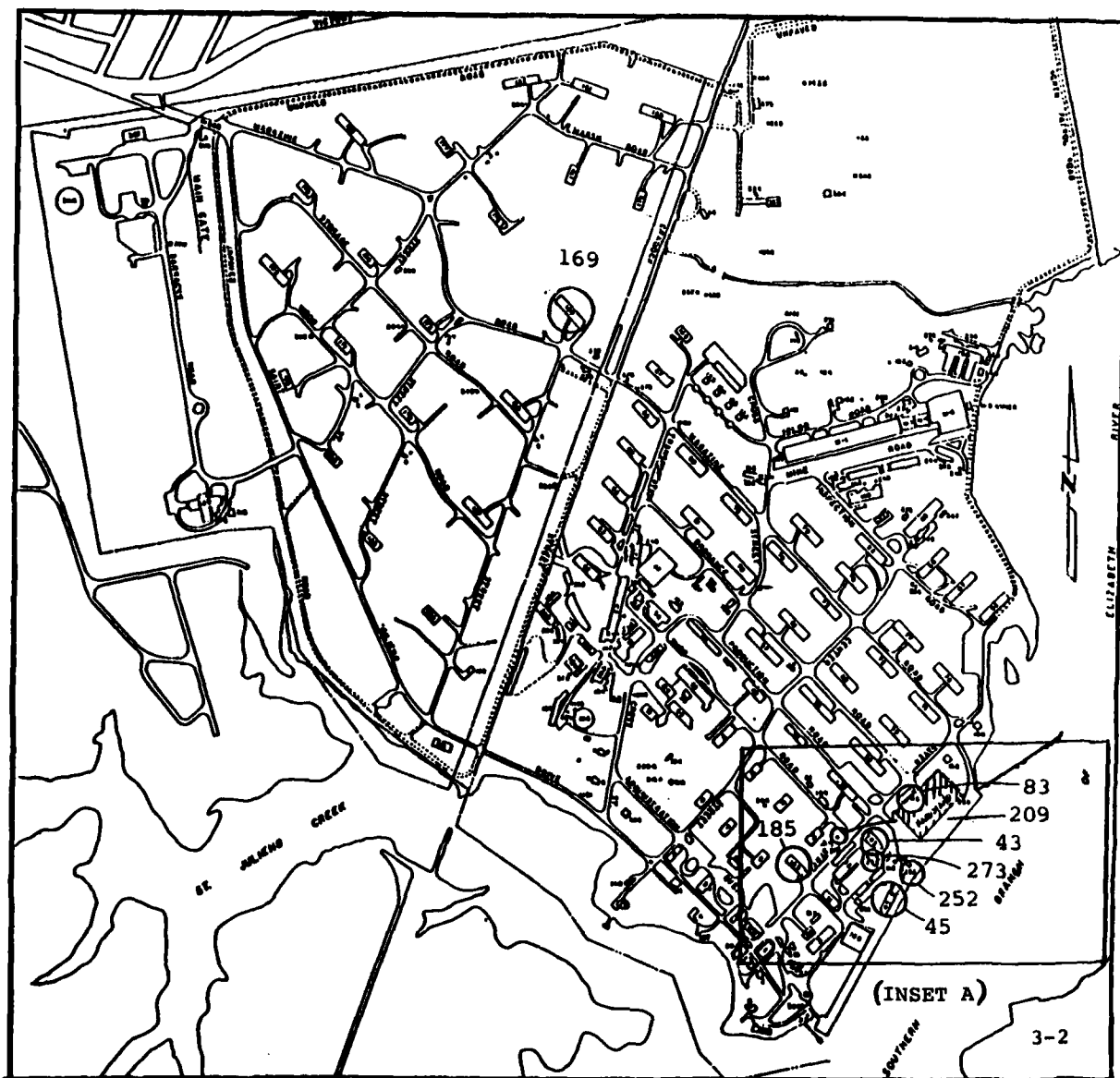
- the general requirements for implementing these changes;
- the future requirements for equipment procurements; and
- the operational efficiency of the overall facility.

3.1.2 Approach

During the time periods 1-4 March and 18-22 April 1983, engineers conducted site visits to gather data and drawings pertaining to the buildings and grounds that constitute the present facility. Using detailed prepared checklists and a camera, they documented information such as a building's history, its present use, dimensions, construction, available utilities, accessibility, description of adjoining grounds and the building's general condition. The engineers also conducted an extensive inventory of the type and location of all equipment and material in each building and outdoor storage area. They interviewed facility personnel to determine the facility's present needs, future requirements and overall operation. These data formed the basis for determining the basic facility requirements, as well as identifying the repairs, modifications and additions that are needed to maintain the facility as well as improve its workability.

3.1.3 Drawings

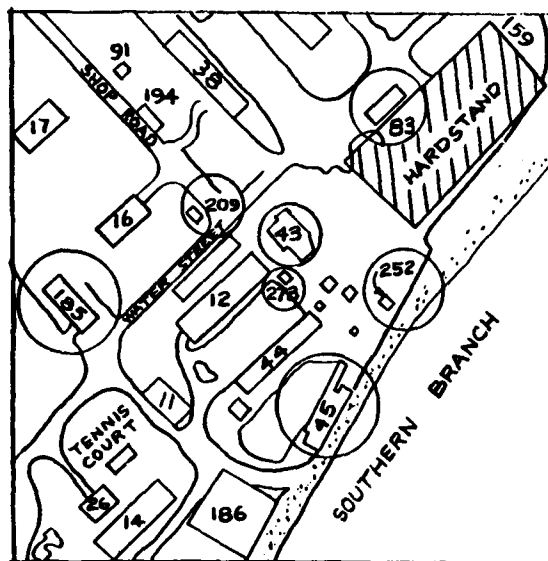
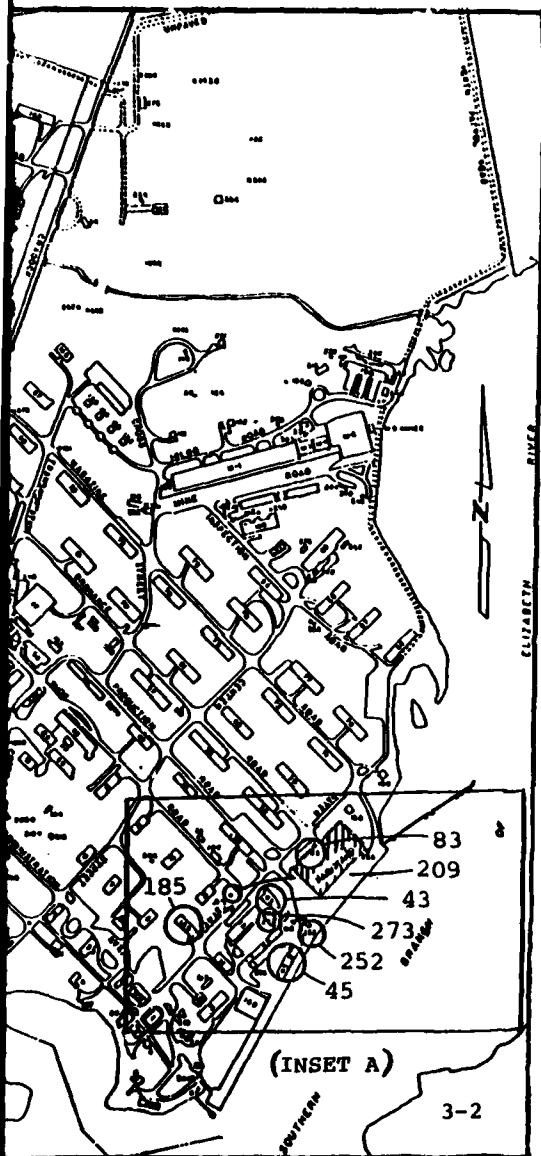
Archival drawings were obtained from the Engineering Division and the Planning and Estimating Division of Public Works, Norfolk Naval Shipyard. Due to the age of the facility, many drawings were outdated, unclear



Bldg.

43
45
83
Hard-
stand
169
185
209
252
273

Figure 3-1: Site Plan of
NOTE: Building
Facility are



(INSET A)

LEGEND

Bldg.

43	Receiving/Shipping/Storage
45	Equipment Storage
83	Equipment Storage
Hard-stand	Storage/Staging
169	Equipment Storage
185	Shops/Engineering Offices
209	Flammables Storage
252	Wharf Office
273	Paint Storage

Figure 3-1: Site Plan of St. Juliens Creek Annex.
NOTE: Buildings within OCEI Support Facility are encircled.

2

or missing. Floor plans were either traced from these drawings or drawn from the engineers' on-site measurements.

3.1.4 Contacts

The following organizations assisted this effort by providing data and guidance:

- Engineering Division, Public Works, Norfolk Naval Shipyard, Norfolk, Virginia
- Facilities Planning Division, Public Works, Norfolk Naval Shipyard, Norfolk, Virginia
- Installations Planning Division, Commander Naval Facilities Engineering Command (COMNAVFACENGCOM), Alexandria, Virginia
- Facilities Planning Department, Chesapeake Division Naval Facilities Engineering Command (CHESNAVFACENGCOM), Washington, DC.

3.1.5 Equipment

In this section, only the dedicated facility support equipment is considered. These are items such as load handling vehicles and dedicated equipment that are permanently assigned to a particular building. An inventory of all categories of equipment is documented in Chapter 2.0.

Another important purpose of the site assessment was to identify additional items that are on order and that are needed to support the mission of the facility. These additional tools, equipment, OCEI items, non-OCEI items and spares need to be accommodated at the facility. Accordingly, adequate space must be planned for them.

3.1.6 Utilities

The OCEI Support Facility receives the same utilities as the rest of St. Juliens Creek Annex. Steam for heating is generated and distributed by the on-site heating plant and distribution system.

Electricity is provided by a substation of the Virginia Electric Power Company (VEPCO) on the north edge of the Annex. The City of Portsmouth, Virginia, supplies potable water and treatment of sanitary waste from the Annex. Salt water for the fire system is stored in an elevated tank within the Annex. Storm water is funneled through ditches to the river and surrounding creeks. Some of the buildings and grounds will need additional utilities of one kind or another. Feasible means of obtaining such utilities were identified during the site assessment. These cases will be more fully discussed in later portions of this document.

3.2 Status of Buildings and Grounds

The site assessment was conducted to determine the existing status of the buildings and open storage areas and their adequacy for present and future requirements. As much data as possible were gathered on-site for each building and open storage area. Their past history, present use, general features, materials of construction, general condition, grounds description, tools and facility support equipment were catalogued. The type and location of equipment and furnishings were laid out and inventoried in detail. All of this information helped to evaluate the facility as an entity and to identify the repairs, modifications and additions required to accommodate the facility's present and future requirements. The equipment inventory is presented in Chapter 2.0 and a detailed discussion of the scope and cost of changes needed is presented in Chapter 4.0.

3.2.1 Building 43

Building 43 was originally termed an Explosive "D" Filling House, but its original construction data and early history are not known. The building is presently used for OCEI shipping and receiving, storage of spares and consumables, and government contractor office space.

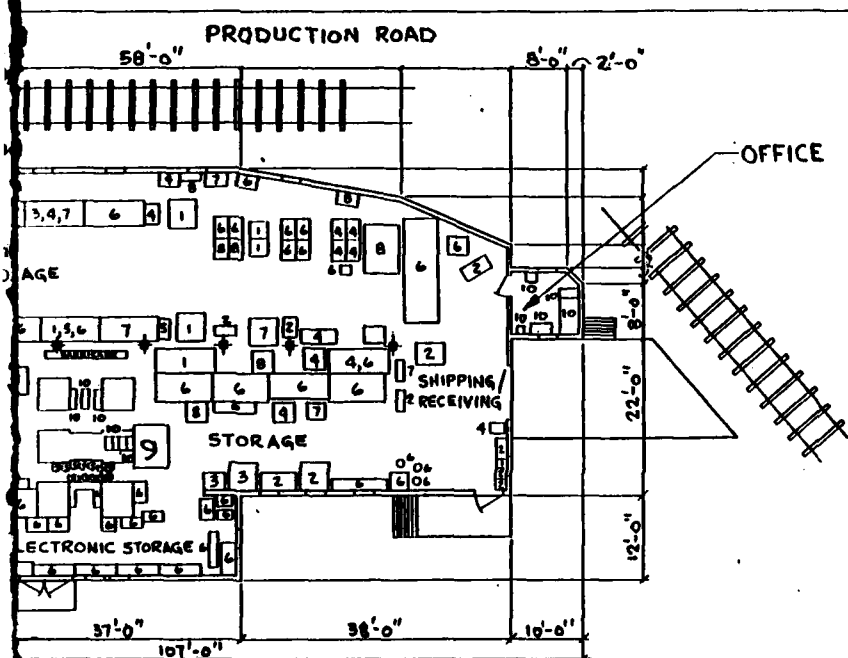
Figure 3-2 shows a pictorial view of the building. Figure 3-3 presents the basic plan view of Building 43, showing its existing arrangement of equipment. It is a single floor, irregularly shaped structure containing 5222 square feet with a concrete floor, wooden walls and ceiling, metal roof, and exterior asbestos siding. The floor is three feet, six inches above ground level. The building is partitioned into a main warehouse, an electronic storage area, three small offices and a lavatory. Utilities include potable water, electricity, steam heat, telephone lines (three commercial and three auto-von) and sanitary sewerage. Each office has a window air conditioning unit and there is a lavatory with two sinks and two toilets.

Four concrete loading platforms enable equipment transfer through double, hinged, loading doors. The southeast and northwest platforms provide railroad access, while the south platform provides road access. Two standard doors provide access at the northwestern end and windows provide light throughout the building. (See Figure 3-3.)

Outside, the associated grounds are lightly grassed and poorly drained. The building is flanked by Water Street on the northwest, Production Street



Figure 3-2: View of Building 43 showing loading platform on south end and gables on east side of building. (Spring 1983)



LEGEND

1. Rigging Equipment
2. Tools and Tool Spares
3. SEACON Spares
4. Consumables
5. Flammables and Bottles
6. Electronics
7. Mechanical
8. Miscellaneous
9. Empty Shelves and Pallets
10. Work Bench and Office Furniture

Figure 3-2: Plan view of Building 43 showing existing conditions and arrangement. (Spring 1983)

on the northeast, by a gravel and paved area in the southwest and by grass on the southeast. The main wharf is approximately 1000 feet to the south. The nearest fire main is 81 feet to the northeast and the nearest utility pole is 54 feet to the northwest. Parking is provided off Production Street on the building's north side.

Building 43 is in fair condition. It is adequate in size, but needs an upgraded equipment transfer capability to fulfill its present and future requirements. The present facility support equipment -- table saw, banding machine, pallet jack, "Big Joe" loading device and a refrigerator for battery storage -- is adequate.

3.2.1.1 Problems and Repairs

All double, loading doors in Building 43 leak during rains. This condition has been investigated and the doors should be weatherstripped or repaired. Several cinderblocks supporting the southwest loading platform have been destroyed. This platform foundation should be repaired. The heating system in Building 43 leaks steam and is uncontrollable and unreliable. This system's leaking pipes should be repaired or the entire system should be upgraded. These repairs will be discussed in detail in Chapter 4.0.

3.2.1.2 Modifications and Additions

The major modification needed for Building 43 is an upgrade of the south loading platform. This would require removal of the existing platform and installation of a new platform 18 feet long and 12 feet wide with a 20,000 pound working load capacity. The present loading door should be replaced with a

new, securable double door 12 feet wide and 10 feet high. This platform expansion will also require the elevation of pipelines running above the door, removal of a lightning rod facing the existing platform, and installation of a paved area to connect the platform to an adjacent parking lot.

The building's heating and cooling systems are inadequate. Heat for the office spaces comes by convection from the main warehouse area. This steam heat is uncontrollable and leaks damaging moisture throughout the building. Also, there is one window air conditioning unit in each office, but no cooling system for the main warehouse area. The heating and cooling systems should be upgraded. Also, if storage of sensitive electronic gear is planned, an isolated area with protection from moisture and the capability of maintaining a stable temperature range is required.

Building 43 is a shipping point with the major packaging occurring in the eastern side of the building. An area should be enclosed into a separate carpenter shop of at least 350 square feet to prohibit dust and noise from contaminating the rest of the building.

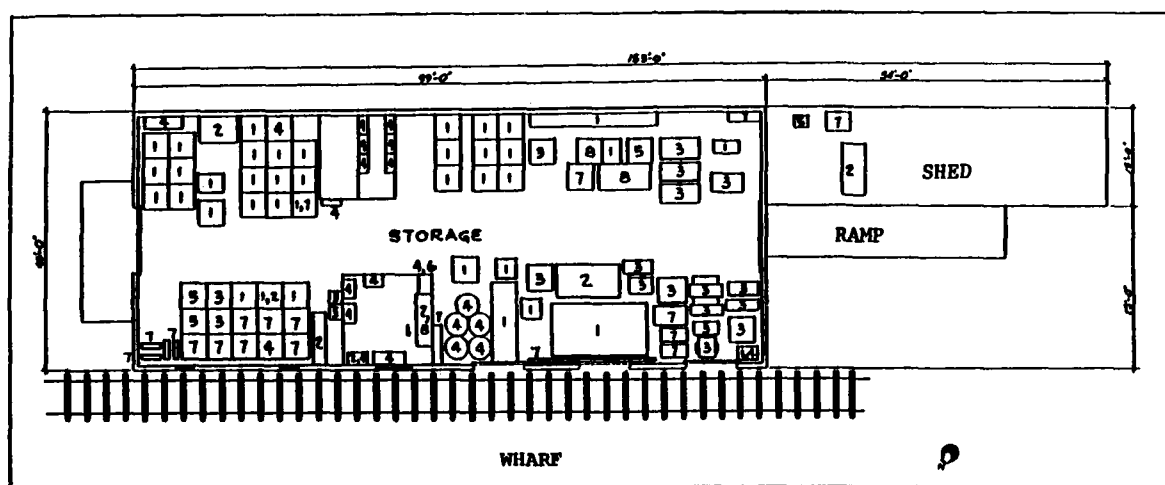
The installation of gutters and downspouts around all doors and loading platforms, where feasible, would lessen the leaking problem and provide safe loading conditions.

These changes will be discussed in detail in Chapter 4.0.

4.2.2 Building 45

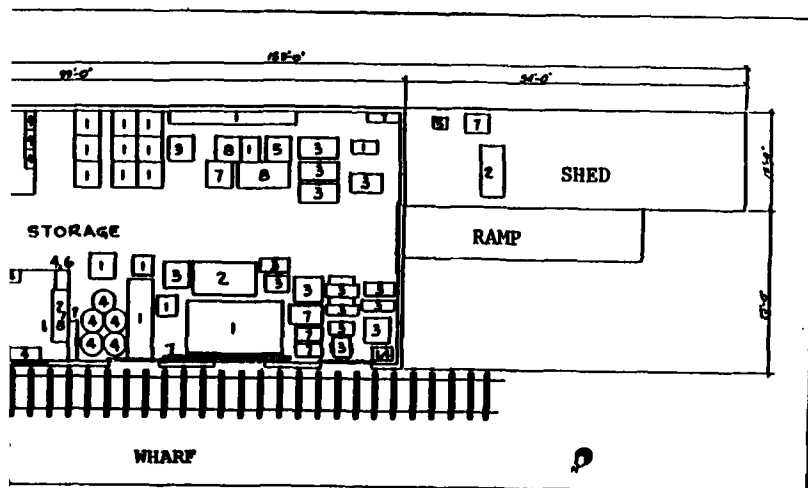
The earliest available drawings from 1913 indicate Building 45 was originally used as a wharf ammunition

LE



1. Rigging
2. Tools and Equipment
3. SEACON S
4. Consumables
5. Flammable
6. Electronics
7. Mechanics
8. Miscellaneous
9. Empty Space
10. Work Benches

Figure 3-4: Plan view of Building 45 showing existing conditions and arrangement. (Spring 1983)



LEGEND

1. Rigging Equipment
2. Tools and Tool Spares
3. SEACON Spares
4. Consumables
5. Flammables and Bottles
6. Electronics
7. Mechanical
8. Miscellaneous
9. Empty Shelves and Pallets
10. Work Bench and Office Furniture

Figure 3-4: Plan view of Building 45 showing existing conditions and arrangement. (Spring 1983)

warehouse. Its present function is for storage of EACON rigging equipment and as a staging area. The existing plan view and arrangement of equipment is shown in Figure 3-4. It is a single floor, rectangular structure measuring 100 feet long and 41 feet wide and containing 4100 square feet. It is partitioned into a north bay, south bay, office, tool shed and caged area. Building 45 has a wooden floor (three feet above the wharf level), wooden walls and ceiling with a corrugated metal roof and exterior siding. It is built directly on the wharf with a foundation of wooden piles. The building has no utilities except for one steam heat unit in the south bay and five old radiators in the north bay. The building is wired for light, although the source of external power is not hooked up.

A concrete loading platform on the south side provides access to the wharf and a railroad track through sliding bay doors. A small, concrete access ramp provides an entrance through sliding double doors on the north side of the building. Additional access is provided by three sliding bay doors on the east side. Numerous windows provide light throughout the building.

Outside, the wharf is paved with concrete on the north, east and south sides. Water lies directly off the building's west side. Three railroad tracks run along the wharf on the east side. A large steel tower is located four feet from the north loading ramp. The nearest utility pole is 50 feet to the northeast and the nearest fire main is 75 feet to the northeast. Adjacent to the building on the north side is a corrugated, metal storage shed measuring 54 feet long, 15 feet wide and 9 feet high used for storage of a forklift and petroleum products. (See Figure 3-5.) This 6000 pound capacity forklift cannot be used in the building due to the foundation's uncertain structural integrity.

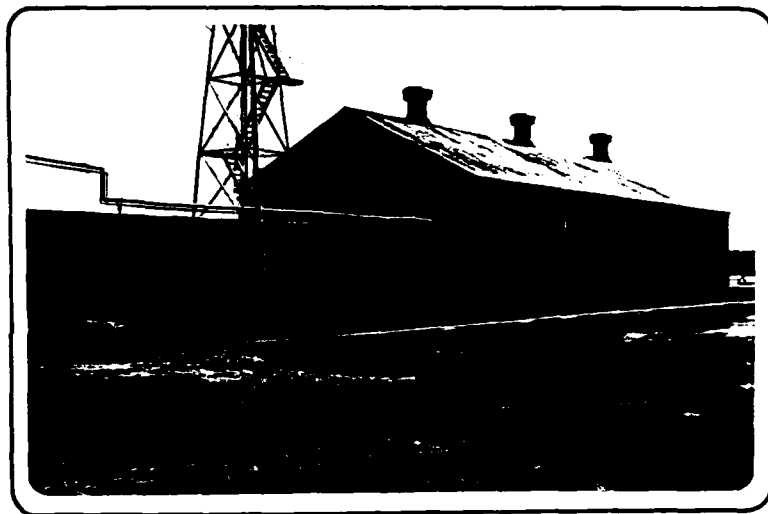


Figure 3-5: View of Building 45 showing west side of building. (Spring 1983) Note storage shed and tower on left.

Building 45 is adequate in size for its present and future requirements. However, changes discussed in paragraphs 3.2.2.1 and 3.2.2.2 will improve the space and operational efficiency of the building. Also, an assessment must be made of the building's structural capacity. Presently, no heavy loading equipment can be used in the building, making material transfer difficult.

3.2.2.1 Problems and Repairs

Due to the building's age and type of foundation, its structural integrity needs to be determined by a complete inspection and analysis. Otherwise, Building 45 may be condemned. The building is very favorably located to serve as part of the OCEI Support Facility; therefore, it would be in CHESNAVFACENGCOM's interest to expeditiously take action to upgrade and maintain the building in a safe and usable status, assuming that the costs to do so are economically justified.

There are no other problems except for the flaking of paint from the ceiling. The building's interior should be scraped and repainted. These items will be discussed in detail in Chapter 4.0.

3.2.2.2 Modifications and Additions

The major modification for Building 45 is the addition of 110/220 VAC power. The building will be connected into the Annex's electrical distribution system and wired with adequate electrical outlets; the existing lighting system will be checked by hooking to a power source. If inadequate, the lighting system will be replaced with a new system. Also, adequate exterior security lighting is needed. The building's heating system needs to be checked and replaced, if inadequate. Security on all doors and windows should be upgraded.

Heavy-duty steel shelves are needed along the walls to store equipment more efficiently. Fifteen padeyes, each with a 750 pound capacity, are needed to hang equipment from the ceiling. The outdoor storage shed needs refurbishment and the addition of adequate lighting.

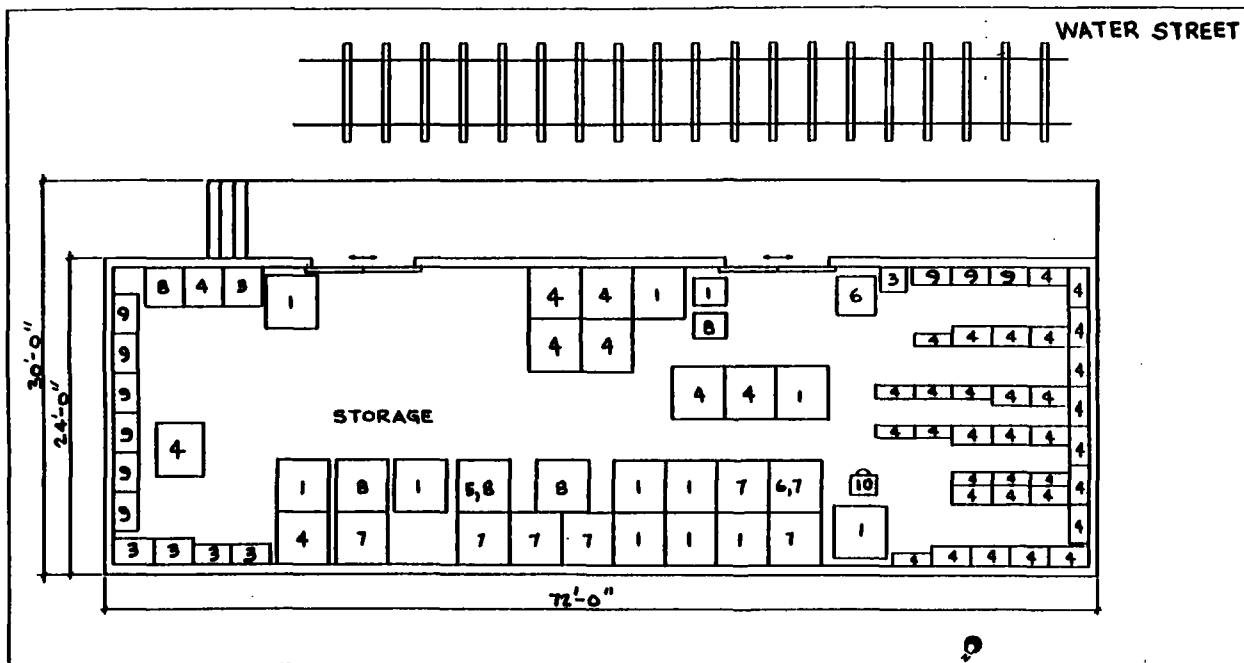
These modifications and additions will be discussed in detail in Chapter 4.0.

3.2.3 Building 83-Y

Although no drawings for Building 83-Y could be located, its original use was probably for storage of explosives. Its present use is for storage of SEACON spare parts and as a staging area. It is a single floor, rectangular structure with outside dimensions 71 feet long and 23 feet wide (1633 square feet). See Figure 3-6 for the existing plan view and arrangement of equipment. It has thick brick walls, a concrete floor, a corrugated asbestos ceiling and a corrugated steel roof. The floor is three feet, ten inches above ground level. The building has no utilities.

A concrete loading platform with access to the road and railroad tracks runs along the building's western side. Two double, sliding steel-plate doors provide access on the building's northwest and southwest ends. There are no windows.

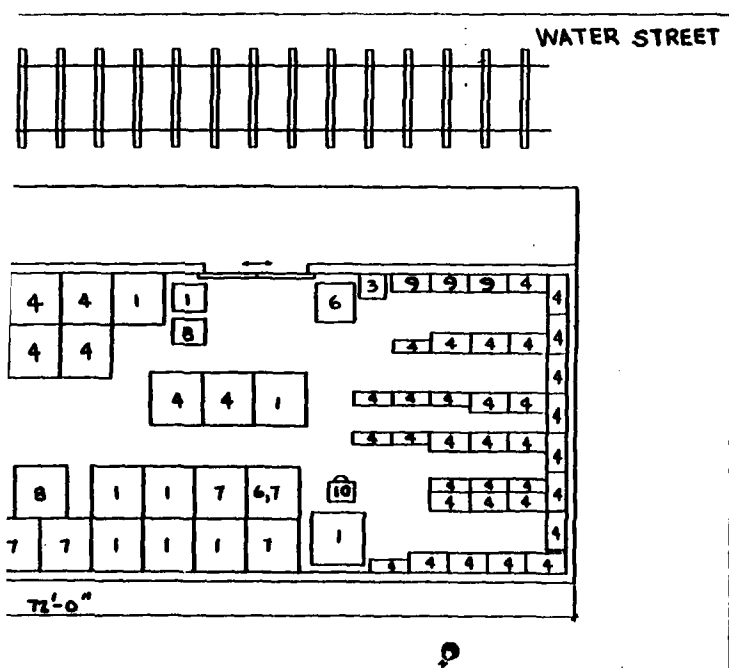
Outside, the building is flanked by Water Street to the west and the Hardstand Area to the east. (See Figure 3-7.) A railroad track runs along the building's west side parallel to Water Street. A large earthen bunker lies 60 feet to the north. The wharf is approximately 300 feet to the east. The nearest fire main is 90 feet to the northwest and the nearest utility pole is 40 feet to the west. There is no facility support equipment assigned to Building 83-Y.



LEGEND

1. Rigging Equipme
2. Tools and Tool
3. SEACON Spares
4. Consumables
5. Flammables and
6. Electronics
7. Mechanical
8. Miscellaneous
9. Empty Shelves a
10. Work Bench and

Figure 3-6: Plan view of Building 83-Y showing existing conditions and arrangement (Spring 1983).



- LEGEND
1. Rigging Equipment
 2. Tools and Tool Spares
 3. SEACON Spares
 4. Consumables
 5. Flammables and Bottles
 6. Electronics
 7. Mechanical
 8. Miscellaneous
 9. Empty Shelves and Pallets
 10. Work Bench and Office Furniture

Figure 3-6: Plan view of Building 83-Y showing existing conditions and arrangement (Spring 1983).

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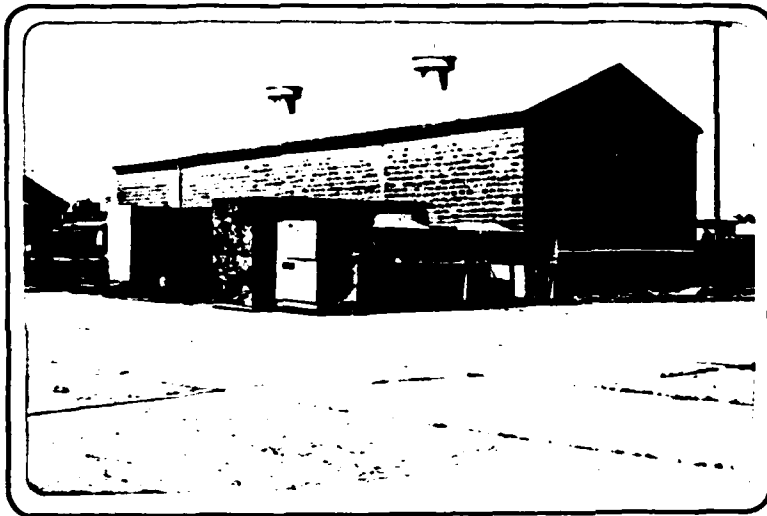


Figure 3-7: View of Building 83-Y showing east side and north end (Spring 1983).

Building 83-Y is adequate in size, for its present and future requirements. For an upgrade in utilities, it needs an improvement in utility. These items are discussed in

3.2.3.1 Problems and Repairs

There are no significant problems and in Building 83-Y.

3.2.3.2 Modifications and Additions

The major modification needed for Building 83-Y is the construction of a loading platform at the north end. The platform should be 20 feet long and 12 feet wide, level with the top of the building. The platform should be of a 20,000 pound working load. There should be a roller curtain type measuring 10 feet high. This will enable quick and efficient handling throughout the building.

Building 83-Y needs to be connected to an electrical distribution system and with 200 amps, 3-phase, 110/200 volt outlets. Interior lighting and exterior security lighting are required. The addition of heavy-duty shelving along the walls would provide more efficient storage.

These changes will be discussed in detail.

3.2.4 Building 169-Z

Although no records for Building 169-Z exist, it was probably originally used for storage of inert material. It is presently used for storage of various equipment and supplies.

Building 83-Y is adequate in size, but not in capability, for its present and future requirements. Along with an upgrade in utilities, it needs an improved loading capability. These items are discussed in paragraph 3.2.3.2.

3.2.3.1 Problems and Repairs

There are no significant problems and no repairs needed in Building 83-Y.

3.2.3.2 Modifications and Additions

The major modification needed for Building 83-Y is the construction of a loading platform and loading door at the north end. The platform should be concrete, 20 feet long and 12 feet wide, level with the floor, and capable of a 20,000 pound working load. The loading door should be a roller curtain type measuring 16 feet wide and 10 feet high. This will enable quick and efficient material handling throughout the building.

Building 83-Y needs to be connected to the Annex's electrical distribution system and wired with adequate 200 amps, 3-phase, 110/200 volt outlets. Installation of interior lighting and exterior security lighting is required. The addition of heavy-duty storage shelves along the walls would provide more efficient equipment storage.

These changes will be discussed in detail in Chapter 4.0.

3.2.4 Building 169-Z

Although no records for Building 169-Z could be located, it was probably originally used for storage of explosives or inert material. It is presently used for long-term storage of various equipment and supplies, including the

Propellant Embedment Anchor (PEA) system. Building 169 is a single floor, rectangular structure with 10,250 square feet of space, measuring 210 feet long and 50 feet wide. The building has thick brick walls, a concrete floor, a corrugated asbestos ceiling and a corrugated metal roof. The floor level is three feet, six inches above the ground. The building has no utilities.

Access to the building from the road and railroad is provided by a concrete loading platform which runs 205 feet along the building's south side. Four double, hinged, steel loading doors provide access on the south side. Between the doors are six large glass plate windows covered by securable steel plates. (See Figure 3-8.) A plan view is presented in Figure 3-9.

Outside, Building 169-Z is flanked by grassy areas on the east, west and north sides. Magazine Road and a railroad track run parallel to the building on the south side. Two driveways provide access from Magazine Road. The wharf is approximately one mile to the southeast. The nearest fire mains are 150 feet to the east and 400 feet to the south. The nearest utility pole is 400 feet to the east. Drainage is poor on the building's east side.

Building 169-Z is adequate in size but not in capability to accomplish its present and future requirements. Although the south wall is lined with tall, heavy-duty steel shelves which store materials efficiently, the building needs an upgrade in utilities and an improvement in equipment transfer capability. The building's present facility support equipment includes a pallet jack and a 6000 pound capacity A-frame. However, there is a need for a loading device which can efficiently transfer material to heights of 14 feet. These items are discussed in paragraph 3.2.4.2.

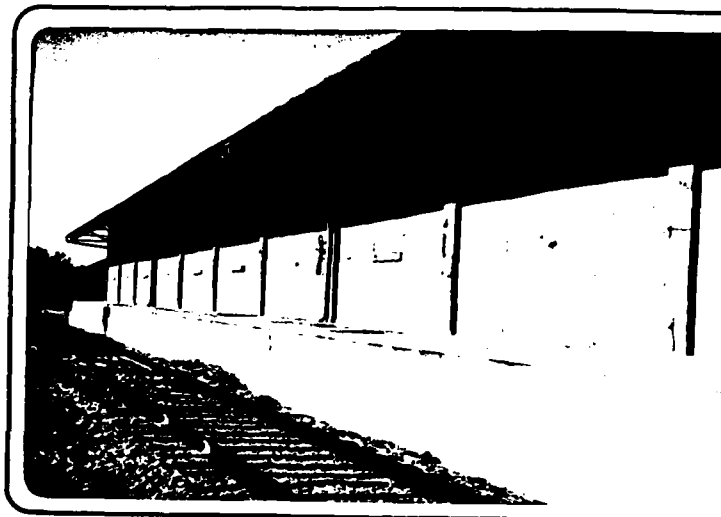
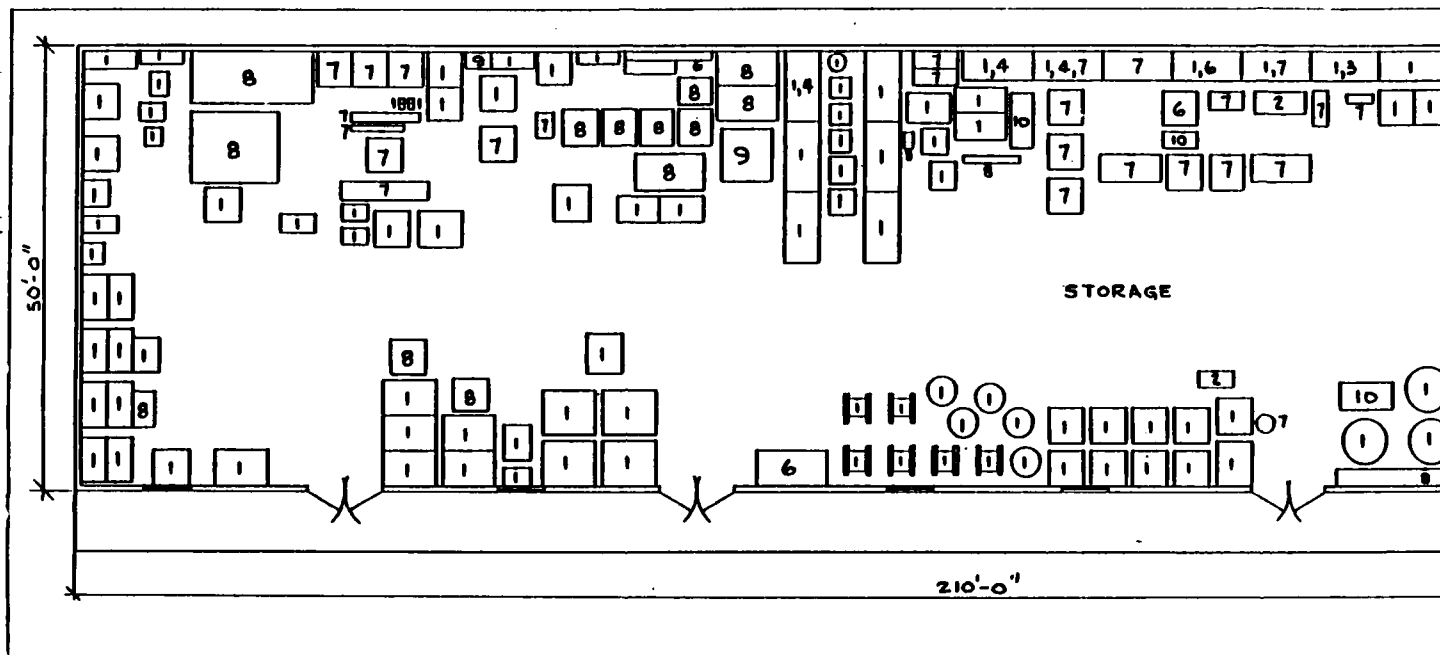


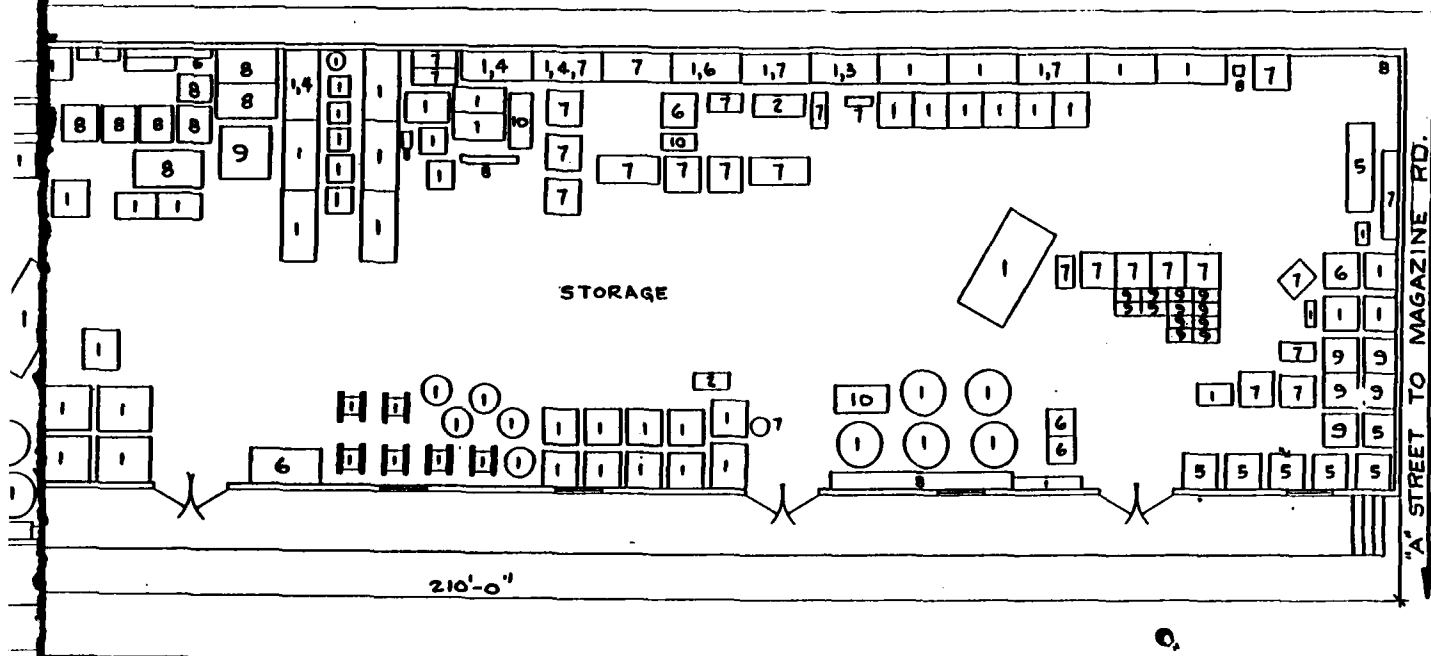
Figure 3-8: View of Building 169-Z showing south side (Spring 1983).



LEGEND

- | | | |
|--------------------------|---------------------------|------------|
| 1. Rigging Equipment | 5. Flammables and Bottles | 9. Empty |
| 2. Tools and Tool Spares | 6. Electronics | 10. Work B |
| 3. SEACON Spares | 7. Mechanical | |
| 4. Consumables | 8. Miscellaneous | |

Figure 3-9: Plan view of Building 169-Z showing existing condition and arrangement (Spring 1983).



LEGEND

5. Flammables and Bottles
6. Electronics
7. Mechanical
8. Miscellaneous
9. Empty Shelves and Pallets
10. Work Bench and Office Furniture

Figure 3-9: Plan view of Building 169-Z showing existing conditions and arrangement (Spring 1983).

However, an important consideration affecting the future of Building 169-Z is discussed in the Norfolk Naval Shipyard 1986 Master Plan. The plan calls for the assimilation of Building 169-Z into the Defense Property Disposal Office (DPDO) Salvage Yard. Therefore, the changes proposed for improving Building 169-Z for CHESDIV use should be carefully weighed against its possible reassignment.

3.2.4.1 Problems and Repairs

Building 169-Z is in good condition. The only significant problem is the repair of the gutters and downspouts over the loading platform on the south side. This repair will be discussed in detail in Chapter 4.0.

3.2.4.2 Modifications and Additions

A major modification needed is the expansion of Door "C" to a 12 foot length and 10 foot height. Removal of a section of roof overhang will be needed to allow equipment transfer by crane. Another modification needed is the connection of Building 169-Z to the Annex's electrical distribution system and the installation of adequate 110/220 volt electrical outlets. Also needed is the installation of a complete lighting system internally and an adequate security lighting system externally. The procurement of a loading device similar to the "Big Joe" in Building 43 is necessary to transfer material to the higher shelves.

These changes will be discussed in detail in Chapter 4.0.

3.2.5 Building 185

Building 185 was originally built in 1941 and termed a Bag Ammunition Filling House (for ammunition rework and overhaul). The building was completely modified in 1979 and the top floor upgraded in 1982. Presently, the bottom floor, 6000 square feet, is used for equipment storage and repair while the top floor, 1700 square feet, is used as office space. Plan views for the first and second floors are presented in Figures 3-10 and 3-11, respectively. Both floors have a concrete floor, concrete walls and a concrete ceiling. The building has cement-asbestos siding and roofing. The foundation is a concrete pad on piles raised three feet, eight inches above the ground.

The main floor is partitioned to support several functions. The Electronic Technician's (ET) shop provides electronic equipment testing, maintenance and repair. Nearby is the battery maintenance and charging area. The Mechanical Shop supports equipment maintenance and repair with a space devoted to Propellant-Embedment Anchor (PEA) systems maintenance and repair. There is also a locker room and lavatory area. (See Figure 3-10.) Utilities include water 110/220 volt electricity, four steam heat units and two telephone lines (commercial and autovon). The Electronics Technician's (ET) shop has central air conditioning and heat.

The second floor contains the Maintenance Office, a technical library, a conference room and blueprint storage (see Figure 3-11). It has a 1/2" water line available, 110/220 volt electricity, two window air conditioning units, one steam heater and three telephone lines (commercial and autovon).

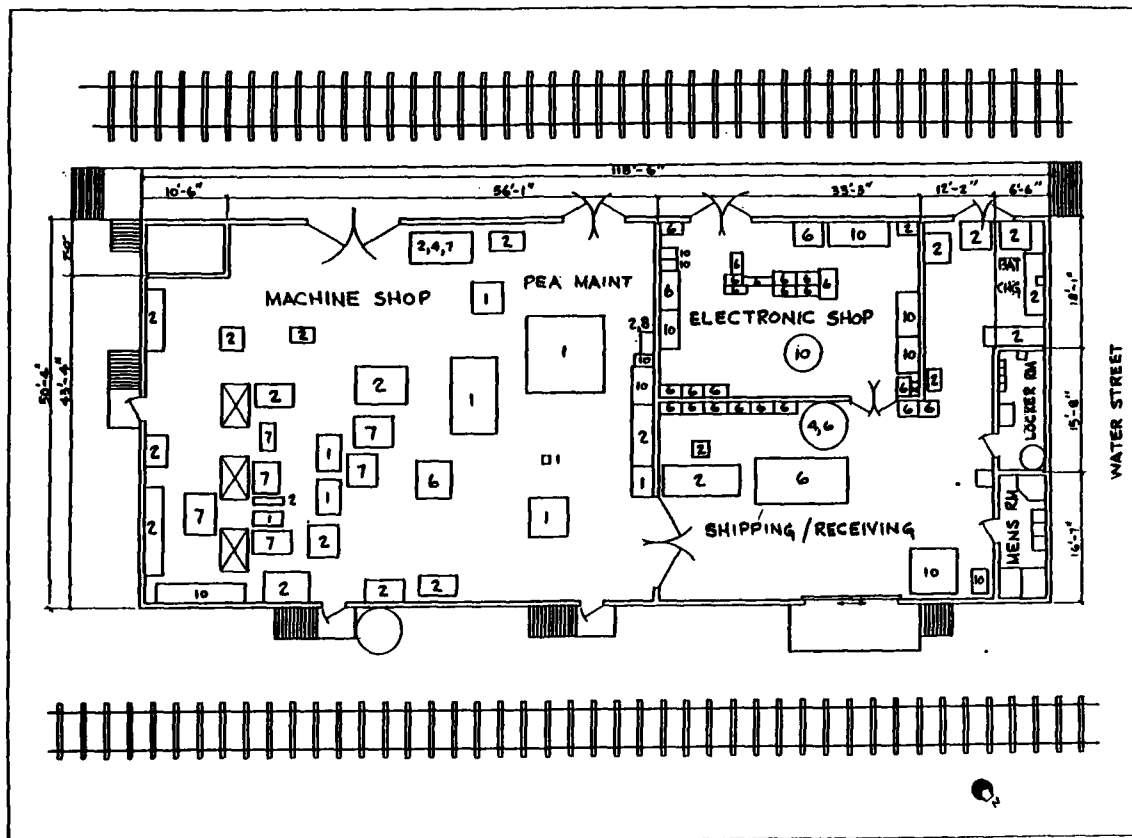
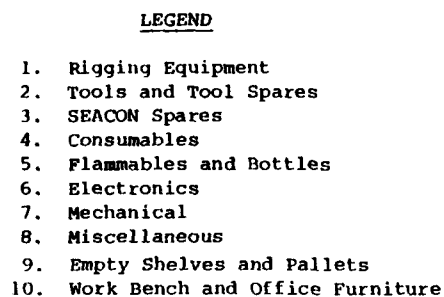
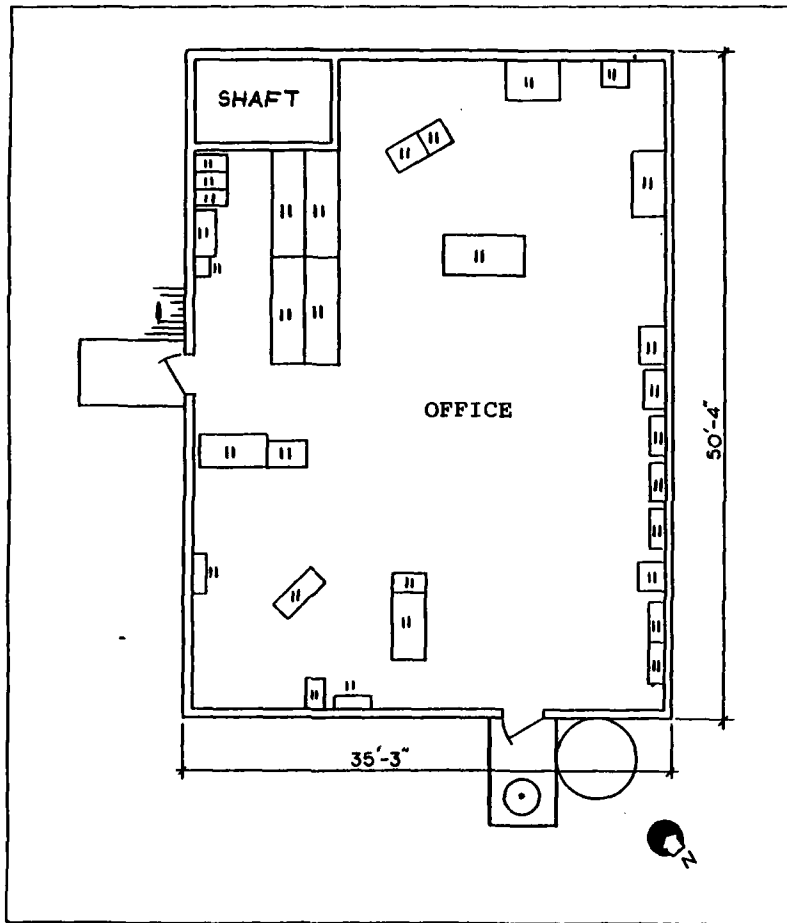


Figure 3-10: Plan view of Building 185 ground floor showing existing conditions and arrangement (Spring 1983).



3-15



LEGEND

1. Rigging Equipment
2. Tools and Tool Spares
3. Season Spares
4. Consumables
5. Flammables and Bottles
6. Electronics
7. Mechanical
8. Miscellaneous
9. Empty Shelves and Pallets
10. Work Bench and Office Furniture

Figure 3-11: Plan view of Building 185 second floor showing existing conditions and arrangement (Spring 1983).

Several loading platforms and doors provide access to the first floor of Building 185. On the north side, a concrete platform runs the length of the building and provides loading access from a railroad track running parallel to the building. Four hinged, double, metal doors provide access to the north side from this platform. (See Figure 3-12.) Another concrete platform and a hinged, double, metal door enables loading to be accomplished from the railroad track and paved area on the southeast side. Along the southwest side, two standard metal doors opening onto concrete platforms with steps to the ground provide regular access. (See Figure 3-13.) Similar access exists on the west side of the building. Large metal and glass windows provide light throughout the first floor of Building 185.

A large metal stairway provides outside access to the second floor on the west side. A fire pole on this side functions as a fire escape. On the southwest side, a hatch and metal slide also serves as a fire escape. An inoperative, two ton pneumatic hoist and a 500 pound electrical dumbwaiter are located on the northwest side. Large metal and glass windows provide light throughout the second floor.

Outside, Building 185 is flanked by poorly drained, grassy areas on the northwest and northeast, by Water Street on the east and by a paved parking area on the southwest. Access to the parking area from Water Street is restricted by a steam line located 25 feet above the ground and laid along the building's east side. A large earthen bunker lies approximately 60 feet from the building's



Figure 3-12: View of Building 185 showing northeast side (Spring 1983).

southeast corner. The wharf is approximately one-quarter mile to the southeast. The nearest fire hydrant is 80 feet to the southeast and the nearest utility pole is 45 feet to the south.

Building 185 contains several pieces of facility support equipment. In the shop areas, there is a vapor degreaser, a degreaser washer, an air compressor, a 10,000 psi hydraulic press, a drill press, a power hacksaw and a plumber's vise. For equipment transfer, there is a pallet jack, a 6000 pound capacity forklift and a 1400 pound capacity A-frame.

Due to its recent overhaul, Building 185 is in very good condition. It is adequate in size for its present and future requirements, but not adequate in capability. The equipment transfer and repair capability needs to be upgraded. These items will be discussed in detail in paragraph 3.2.5.2.

3.2.5.1 Problems and Repairs

Several small problems exist in Building 185. Due to leaks in two southeast doors, the concrete floor surface is significantly degraded. This portion of the floor needs to be repaired and these doors need to be weather-proofed to prevent further leaks. All the windows and doors on the first floor should be checked and weather-proofed, if necessary. Gutters and downspouts should be checked and repaired or installed where necessary. Gutters are especially needed above the doorways. On the second floor, leaks occur at the hoist double door and at the windows north of the main door. These leaks should be repaired. All the windows and doors should

Figure 3-13: View of Building 185 showing southeast side (Spring 1983).

be checked and weatherproofed. In Chapter 4.0, these repairs are discussed in detail.

3.2.5.2 Modifications and Additions

Several changes are required in the first floor of Building 185. The major requirement for Building 185 is the modification of the southeast loading platform. The new platform should be 30 feet long and 20 feet wide with a 40,000 pound working load capability. This work will require removing or covering the existing railroad tracks.

Another modification is the resurfacing and expansion of the paved area. The entire existing paved area and the road area from Water Street to the existing paved area should be resurfaced. An additional area adjacent to the paved area should be surfaced. These surfaces should be of a material sufficient to support a combined load consisting of a crane weighing 39 tons, handling a load of 45 tons while the crane's outriggers are extended.

Also required is the addition of heavy-duty, steel grates to cover three pits in the floor of the mechanical area on the first floor. This grating should be sufficient to support a 40,000 pound working load.

A final improvement is the upgrade of the Electronic Technician's (ET) shop and the Mechanical shop. The equipment testing capability of the ET shop needs improvement. The Mechanical shop needs a diesel engine and winch repair capability. The equipment necessary to effect these improvements will be discussed in

Chapter 4.0. Chapter 4.0 also contains a detailed discussion of the proposed changes and their associated costs.

The loading capacity of the floor of Building 185 needs to be determined so that excessive loading can be avoided or the floor strengthened, if needed.

3.2.6 Building 209-X

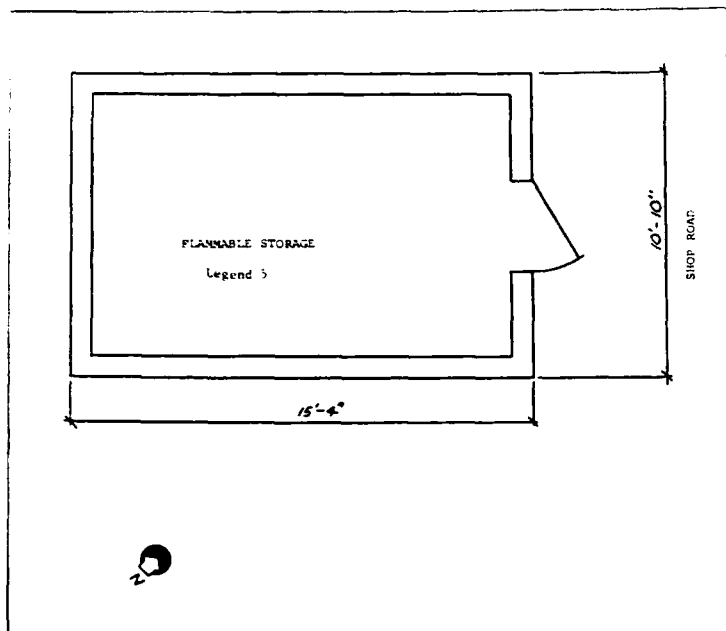
Since no records for Building 209-X could be located, its original construction date is unknown. The 165 square foot building is presently used as a paint locker to store paint supplies and materials. A plan view is presented in Figure 3-14. The concrete building is shaped like a quonset hut and measures 15 feet, 4 inches long x 10 feet, 10 inches wide x 8 feet high. It sits on a two foot thick concrete pad foundation with the sole access provided by a padlocked, double hinged, steel door on the northeast side, facing Shop Road. There are no utilities.

Building 209-X sits at the corner of Water Street and Shop Road. There is a small fire extinguisher three feet from the door. The nearest utility pole is 25 feet to the south. (See Figure 3-15.)

Building 209-X is entirely adequate for its present and future use as a paint locker, requiring no new tools or equipment. It needs no repairs, modifications or additions.

3.2.7 Building 252

Due to the lack of available records, the original construction date of Building 252 is not known. Originally



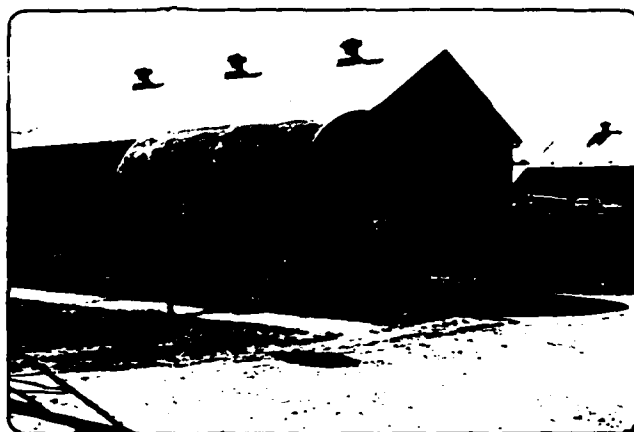
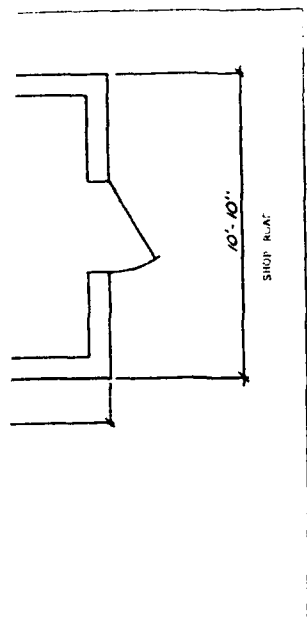
LEGEND

- | | |
|---------------------------|-------------------------------------|
| 1. Rigging Equipment | 6. Electronics |
| 2. Tools and Tool Spares | 7. Mechanical |
| 3. Season Spares | 8. Miscellaneous |
| 4. Consumables | 9. Empty Shelves and Pallets |
| 5. Flammables and Bottles | 10. Work Bench and Office Furniture |

Figure 3-14: Plan view of Building 209-X showing existing conditions (Spring 1983)



Figure 3-15: View of Building 209-X showing east side and north end (Spring 1983)



electronics
mechanical
miscellaneous
empty Shelves and Pallets
work Bench and Office Furniture

Building 209-X showing
interior (Spring 1983)

Figure 3-15: View of Building 209-X showing east
side and north end (Spring 1983)

used as a dock office, it is currently the Administration and Command Center for the OCEI Support Facility. Past building modifications are unknown except for the installation of a new roof in 1981. It is a single floor, rectangular structure measuring 31 feet long and 20 feet wide. The 620 square foot building is presently divided into a main office with adjacent lavatory and two other separate lavatories. (See Figure 3-16.) The spaces inside the building have tiled concrete floors, concrete block walls, and a plaster ceiling. The building has a flat metal roof. Utilities include water, 110/220 volt electricity, steam heat and three telephones (commercial and autovon). The main office equipment includes a teletype machine, a paper copier, several typewriters and a safe. The building is cooled by a window air conditioning unit and heated by two steam radiators. Each lavatory is heated by a radiator.

Access to the main office is provided by a standard door on the east side. Seven windows with awnings provide light to this area. Another standard door provides access to the large lavatory on the southwest side. Several small, hinged windows provide light. The smaller lavatory has a standard door on the northwest side, with several small, hinged windows providing light. (See Figure 3-16.)

Outside, Building 252 is flanked by grassy areas on the south and west sides, by Production Street and paved parking area on the north side, and by the wharf on the east. The building lies 55 feet from the water's edge. The nearest fire hydrant is 30 feet to the south and the nearest utility poles are run along the wharf on the east and on the building's southwest side. (See Figure 3-17.)

Building 252 is in fairly good condition except for the problems that will be discussed in the next paragraph. However, it is not adequate in size for its present and future requirements as a main office. Necessary modifications are discussed later in paragraph 3.2.7.2.

3.2.7.1 Problems and Repairs

The north side windows/entry door have serious water leaks which should be repaired. All other windows should be checked, repaired or replaced, if necessary. The floor adjacent to the leaking windows should be checked and repaired, if necessary. The heating system leaks steam and is generally unreliable. Also, there are no gutters and downspouts on the building.

3.2.7.2 Modifications and Additions

The major modification needed in Building 252 is the removal of two lavatory areas and the expansion of the main office area. Several wall sections, sinks and toilets should be removed to provide additional working and storage space. Spaces will be retained in the west end of the building for the ladies' and men's lavatories. Dropping the ceiling and finishing off the walls will improve the building's energy efficiency and appearance.

3.2.8 Building 273

Available records indicate that Building 273 was built in 1953. Its past and present use has been as a paint locker for storage of paint and caustic materials. The 81 square foot building measures 9 feet, 4 inches long x 9 feet, 4 inches wide x 9 feet, 4 inches high. The building's construction is concrete block walls on a 6 inch concrete pad



Figure 3-17: View of Building 252 showing south side and east end (Spring 1983).

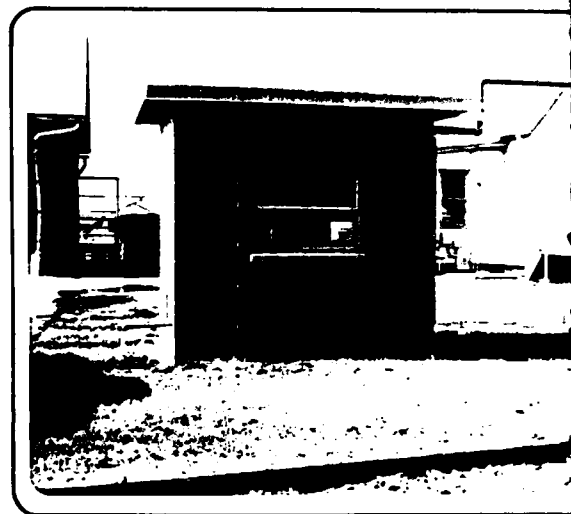
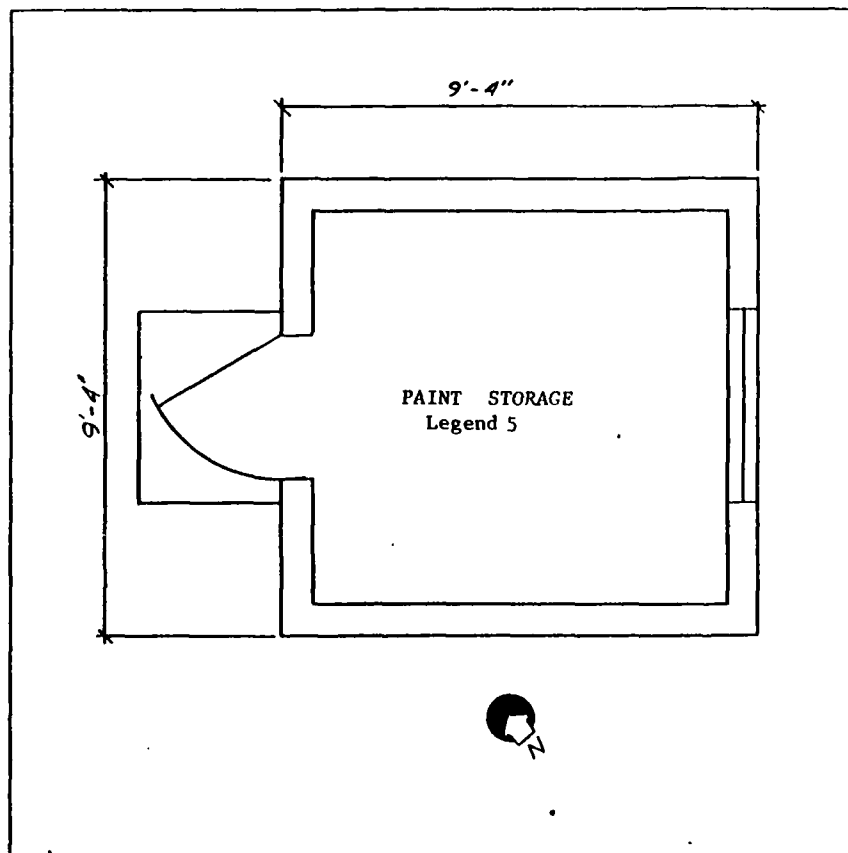


Figure 3-18: View of Building 273 showing south side (Spring 1983).



showing south side
(1983).

Figure 3-18: View of Building 273 showing southeast end
(Spring 1983).



LEGEND

1. Rigging Equipment
2. Tools and Tool Spares
3. Seacon Spares
4. Consumables
5. Flammables and Bottles
6. Electronics
7. Mechanical
8. Miscellaneous
9. Empty Shelves and Pallets
10. Work Bench and Office Furniture

Figure 3-19: Plan view of building 273 showing existing conditions (Spring 1983)

foundation with a flat tar and gravel roof. Access is provided on the northwest side by a standard, hinged door. Light is provided by a southeast window. (See Figure 3-18.) A plan view is presented in Figure 3-19. The only utility present is steam heat, provided by a two inch bar pipe radiator mounted in the ceiling.

Building 273 lies approximately 40 feet south of Building 43. There is a small fire extinguisher mounted at the door. The nearest utility pole lies 40 feet to the west. There is no requirement for new tools, new equipment, repairs, modifications or additions. Building 273 is adequate for its intended present and future use as a paint locker.

3.2.9 Hardstand Area

The original construction date and past use of the Hardstand Area are not known, but it is presently used as an open storage and operation staging area. This paved concrete rectangle extends from Building 83-Y on the west to the wharf's edge on the east, approximately 220 feet in width. From a grassy area on the north side, it runs 400 feet in length south to Production Street. (See Figure 3-20.) This area provides approximately 88,000 square feet of usable outdoor storage and staging space.

Access to the Hardstand Area is provided on the northwest by an outlet from Water Street and on the southwest by Production Street. There is no access on the northeast side or from the wharf on the southeast. Railroad access is plentiful. One line runs on the west side of Building 83-Y, two lines run parallel to the western edge of the wharf, and two lines run along the wharf itself. (See Figure 3-20.)

There are no utilities on the Hardstand Area. However, there are several fire mains and utility poles which run along the wharf's western edge. There are also several lightning rods at various locations. Approximately 220 feet southeast of Building 83-Y, the Hardstand Area slopes down to a depressed portion which contains the two railroad tracks. This 20 foot wide space next to the wharf floods during extremely high tides and rain and is essentially unusable space. (See Figure 3-21.)

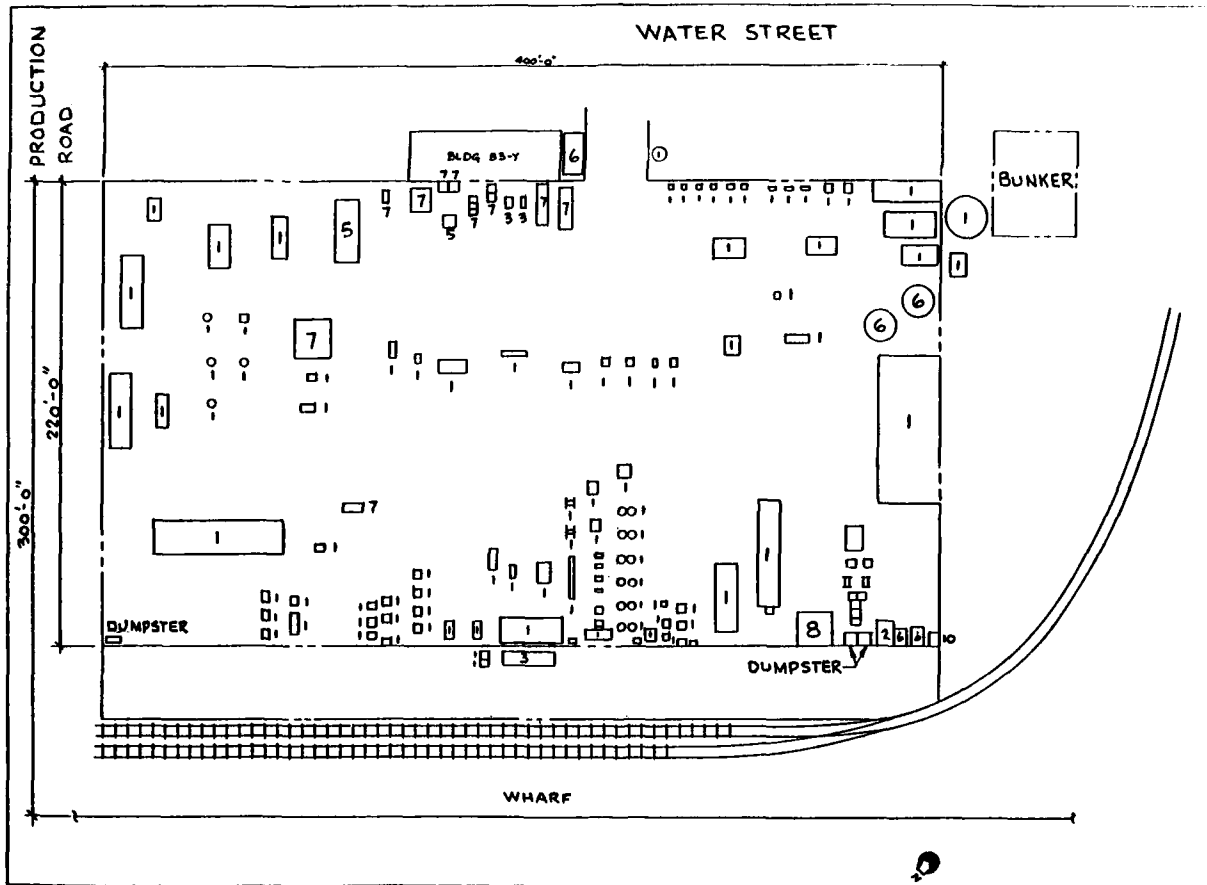
There is a wide range of equipment and material stored on the Hardstand Area from heavy-duty winches to reels of rope and cable to miscellaneous chain hardware and buoys. However, the 35 ton and 45 ton Grove cranes are the only pieces of permanent Hardstand equipment. Although the Hardstand Area is adequate in size for the present and future, it is not adequate in terms of protected storage space. A detailed discussion follows in Section 3.2.9.2.

3.2.9.1 Problems and Repairs

The Hardstand Area is in generally good condition except for some isolated pavement cracking and settling. There are no repairs required.

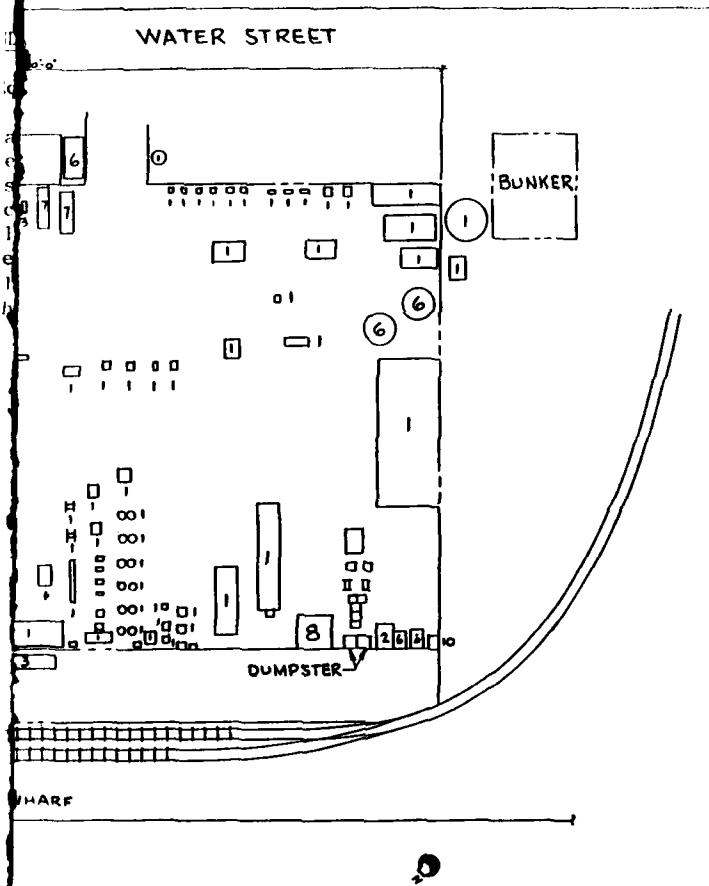
3.2.9.2 Modifications and Additions

There are several changes needed to improve the Hardstand Area. The first involves the protection of the equipment and material stored there. The material and equipment stored on the Hardstand Area are arranged in no apparent order and are exposed to the deleterious effects of rain, sunlight and salt spray. Only the items that are permanently assigned to the area are being staged for a current project, or are adequately protected from the elements should be stored on the Hardstand Area. The remainder



1. Rigg
2. Tools
3. Seac
4. Consu
5. Flamm
6. Elect
7. Mecha
8. Misce
9. Empty
10. Work

Figure 3-20: Plan view of Hardstand Area showing existing conditions and arrangement (Spring 1983)



LEGEND

1. Rigging Equipment
2. Tools and Tool Spares
3. Season Spares
4. Consumables
5. Flammables and Bottles
6. Electronics
7. Mechanical
8. Miscellaneous
9. Empty Shelves and Pallets
10. Work Bench and Office Furniture

3-20: Plan view of Hardstand Area showing existing conditions and arrangement (Spring 1983)

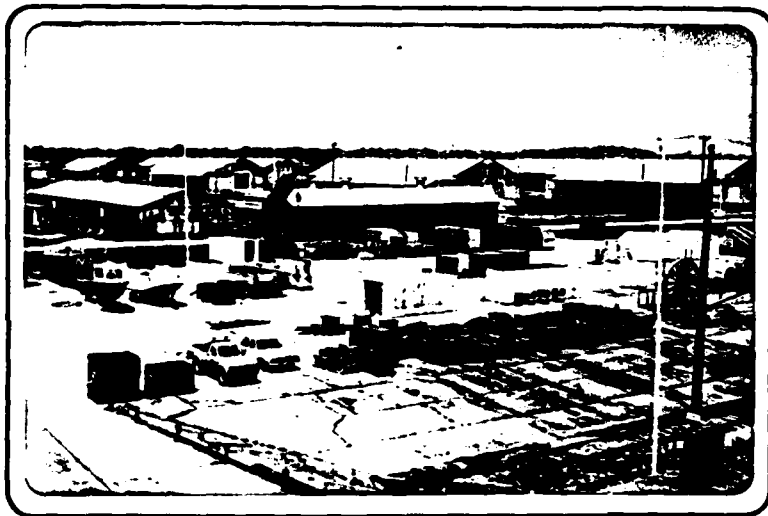


Figure 3-21: View of Hardstand as seen from south-east corner (Spring 1983). Note Building 83-Y in the background.

should be transferred to the appropriate storage. If an item must be stored on the Hardstand, it should have a storage shed or protection similar to the portable shed protecting the winches.

Another change needed is the addition of a storage capability. This would require a space to install two 100 ton deadmen (loading bays) bed with sufficient adaptor plates to connect to the OCEI. A portion of the grassy area adjacent to the bunker on the Hardstand Area's north side should be paved to accommodate this addition.

Installation of a high-intensity security lighting system is needed. This system could consist of lights sufficient to illuminate the entire area at night. Another addition needed is a fresh water supply on the eastern side of the area.

3.2.10 Cheatham Annex Storage Area

This outside, temporary storage area is a space of approximately 38,000 square feet. 210 reels of electrical cable are stored in the area. Lengths of double run cable are stored above the ground. There are 203 cable and 7 reels of type 216 cable.

The area is flat and surrounded by woods on the south sides. A paved road runs along the south side, providing access from the main road. The area contains material, belonging to other users, around the area's wide west side. A dirt road provides access to the interior of the area. (See Figure 3-22)

The majority of cable reels are covered by a tarp which affords some protection. However, the tarp is not secured and can be blown away by the wind.

should be transferred to the appropriate building for storage. If an item must be stored on the Hardstand Area, it should have a storage shed or protective device, similar to the portable shed protecting the two Chase winches.

Another change needed is the addition of a winch testing capability. This would require a space large enough to install two 100 ton deadmen (loading blocks) and a winch bed with sufficient adaptor plates to fit all winches in the OCEI. A portion of the grassy area to the east of the bunker on the Hardstand Area's northwest edge could be paved to accommodate this addition.

Installation of a high-intensity security lighting system is needed. This system could consist of one or several lights sufficient to illuminate the entire Hardstand Area at night. Another addition needed is the installation of a fresh water supply on the eastern side of Building 83-Y.

3.2.10 Cheatham Annex Storage Area

This outside, temporary storage area is an open, grassy space of approximately 38,000 square feet. A total of 210 reels of electrical cable are stored under a one year lease extension. Lengths of double railroad ties raise the reels above the ground. There are 207 reels of type 203 cable and 7 reels of type 216 cable. (See Figure 3-22.)

The area is flat and surrounded by woods on the east and south sides. A paved road runs along the north side, providing access from the main road. Various types of material, belonging to other users, are stored on the area's wide west side. A dirt road provides access through the interior of the area. (See Figure 3-23.)

The majority of cable reels are covered by wooden boards which affords some protection. However, many reels are



seen from south-
83). Note
background.

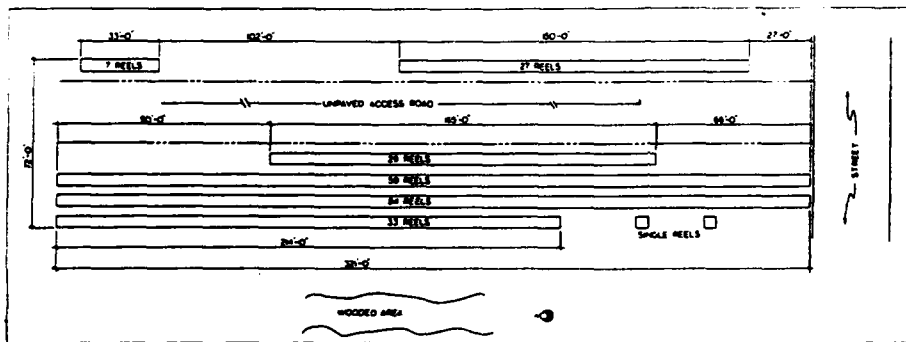
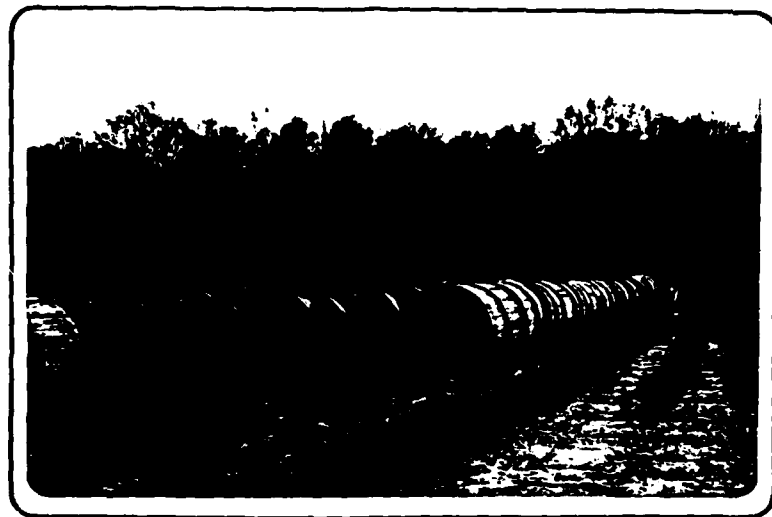
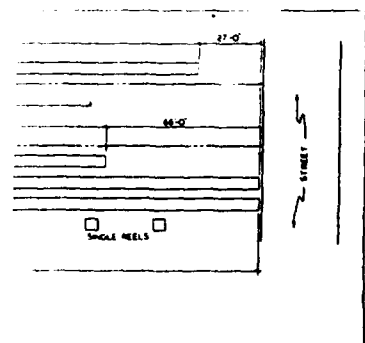


Figure 3-22: Plan view of Cheatham Annex temporary storage area's existing conditions and arrangement (Spring 1983).



Figure 3-23: View of Cheatham Annex temporary storage area as seen from north. Note rough access road.



Annex temporary
ng conditions and
983).

Figure 3-23: View of Cheatham Annex temporary storage
area as seen from north end (Spring 1983).
Note rough access road.

open, leaving the cable completely exposed. A close examination of this cable is needed to determine its present condition. If it is deteriorating, plans for protection of this cable should be made.

This area is adequate for its present requirements. However, in the future, this cable may be moved to the OCEI Support Facility at St. Juliens Creek. This move will require careful planning regarding space allocation.

3.3 Equipment Requirements

This subsection will generally summarize the equipment requirements for the specific buildings which were discussed in the previous sections. It also summarizes the equipment which is presently on order and which is planned to be ordered in the future. This equipment is divided into tools, dedicated equipment, OCEI, non-OCEI items and spares. These equipment types were defined in subsection 1.3.

3.3.1 Equipment Currently on Order

The items listed in the following subparagraphs are presently (1983) on order and will be delivered in due course (references 10 and 11).

3.3.1.1 Tools

No tools are presently on order.

3.3.1.2 OCEI

The following items are currently on order:

- One (1) Line-handling System
- Three (3) Hydraulic Power Packs

- Two (2) Powered Cable Reel Stands
- One (1) Electromechanical Umbilical Cable and Test Equipment
- One (1) Intermediate Range Communication System
- One (1) Diver Construction Equipment Kit

3.3.1.3 Non-OCEI and Spares

The following items are on order as a part of an upgrade of SEACON's safety equipment:

- One (1) Ship's Radar with Collision Avoidance
- One (1) Precision Depth Recorder for Bridge
- Two (2) Lift Rafts
- One (1) Video Surveillance System
- One (1) Pitlog

3.3.1.4 Dedicated Equipment

The following items are currently on order:

- One (1) 8,000 pound load capacity Diesel Forklift
- One (1) 15,000 pound load capacity Diesel Forklift

3.3.2 Equipment to be Ordered in the Future

The following items are planned to be ordered in the future. However, additional items may be added, if unplanned projects arise in the future.

3.3.2.1 Tools

Required hand and small tools will be procured as needed.

3.3.2.2 OCEI

The following items will be ordered in the noted fiscal year:

One (1) Integrated Omega Satellite Navigation System (FY84)
 Two (2) Single Drum, Air-controlled Hoists (FY84)
 Two (2) Double Drum, Air-controlled Hoists (FY84)
 Two (2) Deep Ocean Winches (FY84)
 Three (3) Portable Power Source Sets (FY84)
 Two (2) Small Boat Cable Landing Systems (FY84)
 Two (2) Diver Site Survey Kits (FY84)
 Two (2) Diver Construction Equipment Kits (FY84 & 85)
 One (1) Underwater Navigation System (FY85)
 One (1) Ship Positioning System (FY85)

3.3.2.3 Non-OCEI and Spares

The following items are being procured for future installation onboard SEACON in the noted fiscal years:

One (1) Engineering Spaces Monitoring System (FY84)
 One (1) Halon Fire Fighting System (FY84)
 One (1) Emergency 150KW Diesel Generator (FY84)
 One (1) Anemometer for Bridge (FY84)
 One (1) Depth Sounder Readout for Control Room (FY84)
 One (1) Fire/Flood Alarm System (FY84)
 Four (4) Deck Cleats (FY84)
 One (1) Ventilation Filter System (FY84)
 One (1) General Announcing System (FY84)
 One (1) Ballast/Fuel Tank Level Indicator System (FY84)
 One (1) Roller Curtain Door for Well Deck (FY84)
 One (1) Electronic and Mechanical Test and Maintenance Equipment (FY84)
 One (1) Marisat Communications System Electronic Maintenance and Test Equipment Kit (FY84)
 One (1) Motorola Mini-ranger Service Monitor and Maintenance Repair Kit (FY84)
 One (1) Heating, Ventilating and Air Conditioning System (FY85)

One (1) Fuel Tank Overflow Containment System (FY85)
 One (1) Cable Tank (FY85)
 Four (4) Hatches with Scuttles (FY85)
 One (1) Large Capacity Shipboard Lift System (FY85)
 One (1) Load Monitoring System (FY85)
 Two (2) Tension Load Cells (200,000 pounds) (FY85)
 One (1) Extendable Boom Diesel-driven Hydraulic Crane (FY85)

3.3.2.4 Dedicated Equipment

The following items will be ordered in the noted fiscal years:

One (1) Big-Joe Loading Device (Bldg. 169) (FY87)
 Three (3) Heavy-duty Steel Floor Grates (Bldg. 185) (FY84)
 One (1) 8,000 pound load capacity Diesel Forklift (FY84)
 Fifteen (15) 750 pound capacity padeyes (Bldg. 45) (FY84)

3.4 Assessment of Present Facility as an Entity

As a part of the site assessment, the overall OCEI Support Facility was examined as a functioning entity in order to identify ways of improving its operational efficiency. The major problems identified involved the locations of existing buildings, methods of equipment and material storage, and types of record keeping. Possible solutions to these problems and proposals for improving operational efficiency are discussed in this subsection.

3.4.1 Building Locations

The facility's office function is housed in three separate buildings. Two of these buildings also serve as shop and

equipment storage areas. Another three separate buildings are used for storage of equipment and material.

The present decentralized arrangement of buildings causes management and communications problems. (See Figure 3-1.) For instance, the head of operations and the secretarial support for the OCEI Support Facility in Building 252 are physically removed from the rest of the work force in Buildings 43 and 185. This promotes frequent traffic between buildings which causes wasted time.

Although many inefficiencies stem from building decentralization, consolidation of functions are possible. However, such consolidation should be carefully planned. For instance, moving the main office function in Building 252 to Building 185 would probably solve some problems, but the security and management of the waterfront and Hardstand Area would be adversely affected. On the other hand, the acquisition of a waterfront building (say, Building 186) adequate to serve several functions would be most efficient. The main offices, auxiliary offices and shop areas could then be consolidated.

This concept of consolidation is supported by the 1986 Norfolk Naval Shipyard Master Plan (NNSMP) (reference 1). This plan proposes consolidation of each individual tenant's holdings to provide a more efficient working arrangement. A logical candidate to consolidate OCEI Support Facility functions is Building 186. (See Figure 3-1.) This building is not presently (1983) part of the OCEI Support Facility. However, the NNSMP proposes that it become so in the future. Building 186, located on the waterfront, is large enough to support many functions, and has railroad access.

Since the OCEI Support Facility is an existing facility and it is unlikely that all OCEI functions could be

housed in one location, it is important to make the existing arrangement of buildings work more efficiently. Personnel should be able to minimize trips between buildings and conduct more work by use of the telephone. Each warehouse should have a telephone or public address system to facilitate necessary communications. When trips are necessary, personnel should have a quick and efficient form of transportation.

3.4.2 Material and Equipment Storage

The existing storage procedures for material and equipment are very inefficient. Different buildings house items of the same classification. For example, reels of 1/4 inch wire rope were found in Building 45, Building 169, and on the Hardstand Area. On the other hand, individual buildings contain completely unrelated items. This problem is particularly apparent in Buildings 43, 45, 83-Y and 169-Z. One steel storage shelf in Building 43 holds such disparate items as a diver camera system with spares, an incremental recorder, tool kits, vacuum pumps, coring tubes, cable releases, spare toilet seats, parts of the Wave-Rider system, and nylon rope. These buildings also hold items packed in unlabelled containers. This lack of organization causes inefficient usage of space and difficulty in locating and transporting items. On the Hardstand Area, equipment storage is also disorganized which could cause problems in staging operations, loading mobility and security. These conditions could lead to problems in locating needed items and to unnecessary procurements.

All equipment and material should be identified and those of similar classification consolidated in some workable manner. The name and size (if pertinent) of each item or group of items should be clearly visible. For example, a reel of nylon rope should be labelled "1/2 inch Stablebraid".

Each building should have a system of organization so that equipment and material can be assigned to a specific location. Items can be arranged by function, by type, or by scheduled use. Items should be assigned to a numbered shelf or defined grid within each building. These changes will provide the most efficient use of space and will allow equipment and material to be located quickly.

A guidebook for the entire facility should be prepared that documents the scheme for storage/use for each building and outside storage area. A copy of the guidebook should be assigned to each building and retained for use by anyone wishing to locate or store supplies and equipment.

4.3 Record-keeping

The existing method of record-keeping, using data cards, is inadequate. Only the major pieces of equipment in the OCEI are monitored using property, history and loan cards. Although maintenance records are kept, there is no preventive maintenance schedule. Equipment manuals are not consolidated, but are stored in different buildings. Small items, such as hardware, tools, rope and consumables, are not carefully inventoried.

The implementation of the OCEI computer data base, due to be installed in October 1983, will help streamline the inventory of equipment. This system will not replace the present card system. It will concentrate primarily on keeping track of loanable OCEI and non-OCEI items and will provide each item's basic statistics -- status, location, preventive maintenance schedule and performance. This system will also have the capability

to keep account of the physical plant equipment and the major equipment items which are not loanable.

There will still be a need to inventory and control the hardware, spare parts, and consumables to maximize the facility's efficiency. The procurement of an off-the-shelf inventory program would be a cost-effective solution to this problem.

3.4.4 Building Access

A major facility problem involves inadequate access to several buildings. The major loading platform for Building 43 provides off-loading from the railroad only. Access to the road from this building is provided by a platform too small for forklift maneuvers. Likewise, the platform on Building 83-Y is too small for a forklift and is in an awkward location for equipment transfer between the Hardstand Area. Moreover, the overhanging roof would prevent equipment transfer by crane. Building 169 has similar problems. The platform on Building 185 with the best road access is too small for forklift maneuvers. Furthermore, a steam line running across the entrance to the paved area next to Building 185 restricts accessibility of a crane to the primary entrance of the building.

These problems aggravate the storage problems on the Hardstand Area and in other buildings. If adequate access to each building existed, storage of much of the equipment and material needing inside protection could be accomplished. Solutions to these access problems will be discussed in Chapter 4.0.

.4.5 Miscellaneous

he lack of adequate facilities maintenance is very evident in the St. Juliens Creek Annex. Most utilities are used at capacity and are in a deteriorated condition. The 1986 Norfolk Naval Shipyard Master Plan, reference 5, recommends a major utilities study and a program for major upgrading of the facilities. This plan also recommends comprehensive energy conservation standards. The planned modifications and additions to the OCEI Support Facility should be consistent with these recommendations and guidelines.

.5 General Requirements

Before the repairs, modifications and additions to the OCEI Support Facility are initiated, several general requirements need to be determined. These requirements include the determination of funding procedures and sources for work and acquisitions and the investigations of building codes, environmental impact concerns, safety issues, and building exchanges that might impact implementation of the Five Year Plan.

.5.1 Funding and Procedures for Work and Acquisitions

In order to plan work and acquisitions of equipment to upgrade the facility, the types of funding and the schedules for expending them must be identified.

The Ocean Engineering and Construction Project Office (Code FPO-1), through its parent organization, the Chesapeake Division (CHESDIV), receives money from the Naval Facilities Engineering Command (NAVFAC).

Monies for operation and maintenance of the OCEI Support Facility are obtained from appropriations designated as Operations and Maintenance, Navy (O&MN). FPO-1 annually submits a budget through the chain of command and subsequently receives O&MN funds in the form of centrally managed and mission management monies. Centrally managed O&MN funds are used at the OCEI Support Facility to pay for items such as utilities, repairs and general services associated with maintenance of the facility. Mission management O&MN funds, plus reimbursable funds provided for support of particular projects, are used to pay the salaries of personnel at the support facility.

Monies for procurement of items of equipment that cost over \$3000.00 are paid for from appropriations designated as Other Procurement, Navy (OPN). These monies are acquired through the annual budget process from NAVFAC. Items to be procured using OPN Appropriations must be requested three years in advance. NAVFAC approves the expenditures in the first year, the plans and specifications are written in the second year, and the item is procured in the third fiscal year.

All of these funds must be budgeted and expended carefully. Major items of equipment costing over \$3000.00 will be identified in this Five Year Plan and programmed for OPN procurement, beginning in FY 1987. Facility repairs, modifications and additions will use O&MN funds and will be programmed for the period FY 1984 - FY 1988, inclusive. Expenditures for facility changes made during FY 1984 and FY 1985 must not exceed, nominally, \$150,000 per year which will be set aside in the centrally managed O&MN budget for facilities improvements. After FY 1985, this restriction may be lifted through budget planning.

and increased allotments, if necessary. The planned facility changes and acquisitions with their costs and year of expenditure are detailed in Chapters 4.0 and 5.0.

The procedure for implementing facility changes is dependent on the cost of the change. If the change is an alteration, improvement or new construction costing under \$25,000.00, or a repair costing under \$75,000.00, a Site Approval Form (NAVFAC Form 11010/31 12/77) should be submitted to the Installation Planning Division (Code 20) of the Atlantic Division (LANTDIV) of NAVFAC via the Norfolk Naval Shipyard Public Works' Facilities Planning Division (Code 441). Code 441 will determine if the change is compatible with the 1986 NNSMP (reference 5). If the proposed change is over the cost thresholds mentioned above, the change will become a special project which must be approved by Naval Material Command (NAVMAT) via NAVFAC.

3.5.1.1 Codes

Any facility repairs, modifications and additions will follow the guidelines given in the NAVFAC Design Manuals (DM's). All electrical work will follow the guidelines of the National Electric Code (NEC) and the National Fire Protection Association (NFPA) which are referenced in the NAVFAC Design Manuals.

3.5.1.2 Environmental Impact

The 1986 Norfolk Naval Shipyard Master Plan (NNSMP), reference 5, cites OPNAVINST 6240.3E, reference 12, regarding environmental impact. This instruction requires that, prior to commencement of any action or continuance of any existing program, the probable ecological and environmental impacts of the action

or program shall be determined and submitted for review. The NNSMP suggests using a Preliminary Environmental Assessment (PEA) performed at the activity level and reviewed within the chain of command to determine whether the proposal can be exempted or requires an environmental assessment or statement. It is unlikely that any of the facility changes proposed in this document will require an environmental assessment or statement. Further information is given in OPNAVINST 6240.3E.

3.5.2 Safety

Guidelines concerning safety issues are given in the Code of Federal Regulations, Part 1910, of the OSHA, reference 13. This document outlines the acceptable levels of factors such as noise, dust, gases and lighting. Due to its small size and scope of operations, it is unlikely the OCEI Support Facility will exceed these levels.

The majority of buildings within the OCEI Support Facility contains interior and exterior corrugated asbestos siding. Conversations with the Environmental Engineering Branch at CHESNAVFACENGCOM indicate this siding is not the friable type and, therefore, not a health hazard. The type of asbestos which is regulated as a health hazard is the friable type used as blown-in insulation, for example.

3.5.3 Exchanges of Buildings

Conversations with Norfolk Naval Shipyard Public Works, Code 441, indicate that to exchange buildings within the St. Juliens Creek Annex, an official letter must be sent to Code 441 stating the reasons for the proposed change. Code 441 checks the compatibility of this exchange with the 1986 Norfolk Naval Shipyard Master Plan and the proposing activity's Basic Facility Requirements (BFR).

CHAPTER 4.0

**DESCRIPTION AND COSTS FOR REPAIRS,
MODIFICATIONS AND ADDITIONS TO THE
FACILITY**

4.0 DESCRIPTION AND COSTS FOR REPAIRS, MODIFICATIONS AND ADDITIONS TO THE FACILITY

The proposed changes and improvements to the OCEI facility which comprise the basis for the Five Year Plan are presented in this chapter. Drawings of each building and its associated grounds are provided, detailing floor plans proposed, equipment arrangements, and physical improvements. Storage organization is indicated by equipment zones, with all material grouped into one of ten possible categories. Floor layouts are presented which maximize space utilization and incorporate the standard forklift maneuvering room of twelve feet. The accompanying discussions amplify the information provided on the drawings and provide rationale for the repairs, modifications, additions and reorganization proposed. Estimates are presented for the following: 1) space utilized or required; 2) costs for repairs, modifications or additions for each building and its associated grounds; 3) equipment to be purchased and installed in each building or on its grounds; and 4) tools to be purchased and assigned to each building.

Purchase of equipment to enter the OCEI and items categorized as non-OCEI and spares are not included in costs comprising the Five Year Plan. Rather, the plan addresses the costs associated with modifications or additions required to upgrade a building or its grounds so that it is suitable for handling and storing existing and proposed equipment and material.

Costs are given in dollars for the year the money is to be disbursed. Escalators for estimating annual cost increases were presented in paragraph 1.4. These are applied in prioritization of repairs, modifications, and purchases. The cost and type of funding for each item is identified; i.e., mission management or centrally managed Operations and Maintenance, Navy (O&MN) or Other Procurement, Navy (OPN) funds. Because of the lead

times for various stages of approval, it will be FY 1987 before OPN money can be used.

This chapter develops the costs and identifies the source of funding for each item which provides a first level of prioritization of tasks and acquisitions to be accomplished. The final ordering of priorities (funding and schedules), however, will be presented in Chapter 5

The cost estimates for the various tasks and acquisitions include any concomitant work that must be done in order to accomplish the objective. For example, if a water pipe must be relocated so that a door can be enlarged, this secondary task is included in the estimate, although not specifically mentioned.

Cost estimates were provided, primarily, by Norfolk area general, mechanical, and electrical contractors having successful records of performance on Norfolk Naval Shipyard contracts of similar scope. Local vendors provide estimates for specified material and equipment. Estimates for certain special items were provided by Tracor Marine the current OCEI support contractor to CHESNAVFACENGCOM

The cost estimates were generated from information gathered during on-site visits to the proposed work sites by contractor estimators accompanied by CHESNAVFACENGCOM and Tracor Marine representatives. Following further engineering input, contractor estimates were compared to internal estimates of individual items and a final cost determined. These costs are presented in Tables 4-1 through 4-11. The administrative costs of contracting and monitoring the work are not included in the itemized estimates given in this chapter, but are presented in the summary table presented in Chapter 5. Estimates of manpower augmentation costs to cover rearranging equipment and streamlining operations are also given in Chapter 5.

4.1 Building 43

Figure 4-1 shows the proposed floor plan. The building will continue to serve as the primary location for receiving, transfer, crating, shipment and storage of smaller, sensitive or more frequently used material and equipment. Building 43 will also continue to house contractor offices for purchasing, shipping, receiving and inventory control in support of the OCEI and Ocean Construction Platform SEACON.

The proposed changes are designed to streamline the building's storage and operational efficiency, provide better access by truck, provide environmentally controlled storage for electronic equipment, isolate the carpentry shop to contain noise and dirt, and improve habitability. Changes are planned in order to incorporate energy efficiency improvements as well.

Floor space is 100% utilized for receiving, unpacking, packing, shipping and storage. Sufficient, although no excess, space is available for maneuvering the fork-lift.

Proposed changes to Building 43 are given in the following sections; Tables 4-1 and 4-2 provide the details including items, cost, proposed fiscal year and rationale.

4.1.1 Repairs

Proposed repairs to Building 43 are detailed in Table 4-1. Double doors and windows in Building 43 leak water and contribute substantially to overall heat loss from the building. The older doors which will not be closed up or replaced should be weatherstripped and have new hardware installed to assure closure for tightness and security.

The main entry facing northwest to Water Street requires one new fire escape door and hardware, because the door is quite battered and leaks air. Additionally, the crash bar, latch and lock no longer function properly.

Numerous windows are substantially deteriorated, particularly the sash and putty sealant. Funding is budgeted to make repairs and replace as required.

The interior steam system leaks and may be corroded enough to be dangerous and subject to rupture. New two inch steam supply lines, valves and fittings should be installed to the existing heat coils. The piping will need to be rerouted to avoid interference with the proposed new overhead door located at the southwest platform.

The northwest office has three outside walls and an unenclosed foundation, making the space very cold in winter. It is recommended that the present air conditioner be replaced with a new environmental control reverse cycle unit with a capacity of 10,500 BTU/HR.

4.1.2 Modifications and Additions

Modifications proposed to improve the efficiency and function of Building 43 are shown in Table 4-2. The cargo door at the southwest loading platform will be enlarged to a 10' x 12', tight closing overhead door to better accept truck cargo, and the present small southwest loading platform will be replaced by one 12' x 18' to allow maneuvering of the forklift while loading/unloading. Also, to improve truck and rail access, an area of approximately 1950 square feet between the adjacent parking lot and the new loading dock should be paved. This pavement should be designed for heavy-duty loading.

LEGEND

1. Rigging Equipment
2. Tools and Toolboxes
3. Season Spare Parts
4. Consumables
5. Flammables and Volatiles
6. Electronics
7. Mechanical
8. Miscellaneous
9. Empty Shelves
10. Work Bench and Floor

MODIFICATIONS:

11. New Front Dr
12. Walled up do
13. New Wall & l
14. New Cargo Dr
15. New Hardstar
16. Walled off S
Carpenter Sh
Storage
17. Environmental
18. Move Main Br

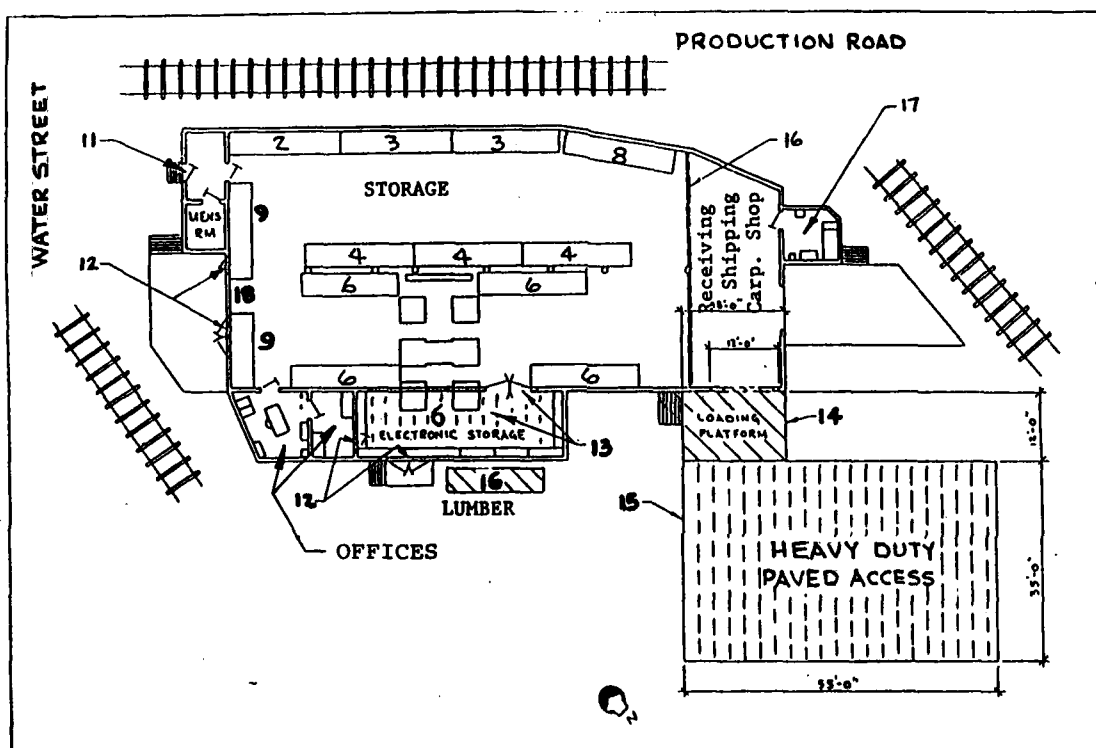


Figure 4-1: Proposed layout of building 43 showing re-arrangement of storage, enlarged cargo door, and loading platform and hardstand plus environmentally controlled electronic storage, carpenter shop/shipping receiving area and covered lumber storage.

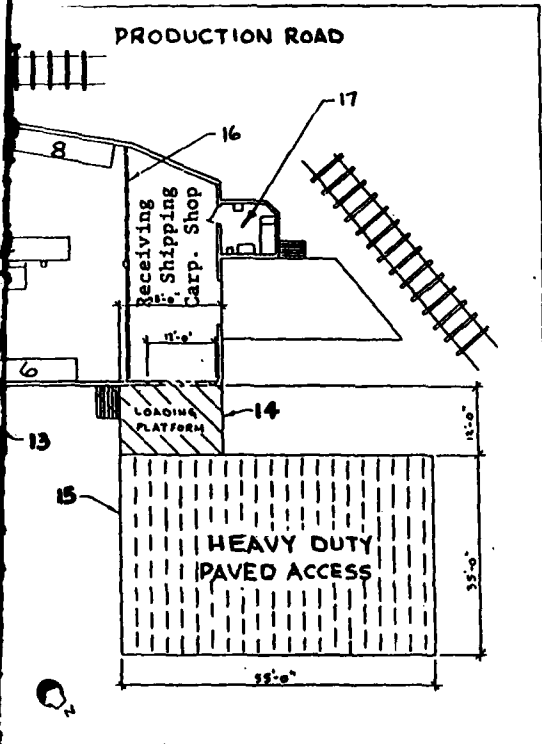
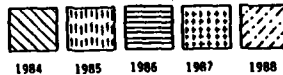
LEGEND

1. Rigging Equipment
2. Tools and Tool Spares
3. Seacon Spares
4. Consumables
5. Flammables and Bottles
6. Electronics
7. Mechanical
8. Miscellaneous
9. Empty Shelves and Pallets
10. Work Bench and Office Furniture

MODIFICATIONS/ADDITIONS

11. New Front Door
12. Walled up doors
13. New Wall & Doors
14. New Cargo Door & Loading Platform
15. New Hardstand
16. Walled off Shipping Receiving Carpenter Shop & Covered Lumber Storage
17. Environmental Control in Office.
18. Move Main Breaker Inside

FY CODE



layout of building 43 showing re-arrangement of enlarged cargo door, and loading platform and hard-
us environmentally controlled electronic storage,
r shop/shipping receiving area and covered lumber

Table 4-1

Bldg. 43 RECOMMENDED REPAIRS				
FY/FND	Problems	Repairs	Figure #/ Legend #	* Est. Cost
85/OMN	Heat system dangerously rusted	Provide new 2" lines, valves & fittings	4-1	\$ 6,700
85/OMN	Doors & windows leak	Weatherstrip doors repair windows		1,070
85/OMN	Poor Security	Replace front entry & provide locks	11	810
*Estimated costs reflect FY escalators.				

Table 4-2

Bldg. 43 RECOMMENDED MODIFICATIONS		
FY/FND	Problems	Mods/Additions
84/OMN	Sawdust, noise, no lumber storage	Provide carpenter shop
84/OMN	Adapt Bldg. to truck loading vs. railroad	Enlarge SW cargo door
84/OMN		Enlarge SW loading platform
85/OMN		Pave access
85/OMN	NE office cold	Provide environmental control for NE office
85/OMN	Electronic storage corroding	Provide environmental control storage for electronics
85/OMN	Breaker panel outdoors	Move breaker panel indoors
*Estimated costs reflect FY escalators		

Table 4-2

REPAIRS			Bldg. 43 RECOMMENDED MODIFICATIONS/ADDITIONS					
	Figure #/ Legend #	*Est. Cost	FY/FND	Problems	Mods/Additions	Figure #/ Legend #	*Est. Cost	
new 2" pipes & valves	4-1	\$ 6,700	84/OMN	Sawdust, noise, no lumber storage	Provide carpenter shop	4-1 16	\$11,610	
repair doors & windows		1,070	84/OMN	Adapt Bldg. to truck loading vs. railroad	Enlarge SW cargo door	14	1,475	
front provide	11	810	84/OMN		Enlarge SW loading platform	14	7,450	
			85/OMN		Pave access	15	12,980	
			85/OMN	NE office cold	Provide environmental control unit for NE office	17	810	
			85/OMN	Electronic storage corroding	Provide environmental control storage for electronics	13	16,070	
			85/OMN	Breaker panel outdoors	Move breaker panel indoors	18	2,100	
			*Estimated costs reflect FY escalators					

The present electronic storage room on the southwest side of the building will be completely insulated and environmentally controlled. The present receiving/shipping area at the northeast end of the building will be partitioned from the rest of the building and provided with interior doors to isolate the sawdust and noise associated with the carpentry shop. Covered storage racks for lumber will be provided outside along the southwest wall. Two unneeded doors on the northwest side will be walled up to conserve energy. The main breaker panel for the building will be brought from outside of the building to the inside.

4.1.3 Tool Requirement

Existing special tools required for Building 43 consist primarily of a table saw and other general tools for building or opening crates, etc., as well as a banding machine and stencil cutter for packaging and shipping. No new tools are required.

4.1.4 Equipment Requirements

No special equipment is required over and above the existing forklift and pallet jack which is used for handling and storing equipment.

4.1.5 OCEI Requirements

Building 43 is used to store OCEI electronic equipment and spares, for which the environmental storage room described in 4.1.2 above is planned.

4.1.6 Non-OCEI Items and Spares Requirements

There is a quantity of consumables and spares stored in this building. Some reorganization of material within Building 43 and between Building 43 and other buildings is anticipated.

Specifically, Building 43 will continue in its function of shipping/receiving and storage of ready spares and smaller, more sensitive items. Paints and flammables will be moved to the paint or flammable storage building. Changes to Building 43 will involve setup of the carpentry shop, lumber storage, and relocation of the electronic equipment stored in the main storage area to the new environmentally controlled electronic storage room. No other material changes are required to accommodate the inventory reorganization.

4.1.7 Personnel Requirements

Proposed building repairs and modifications will be performed by an outside contractor. The inventory reorganization discussed in 4.1.6 above will require augmentation of the standard on-site personnel. Approximately one man month is required.

Manpower requirements to operate normal receiving, shipping and warehousing functions are anticipated to continue at the present level.

4.2 Building 45

The near-term use of Building 45 is presently in question because of the degraded condition of the pier and pilings

on which it stands. CHESNAVFACENGCOM has had recent verbal instructions from the CO, Norfolk Naval Shipyard, via the OIC, St. Juliens Creek Annex, to vacate the building for a period, during which time the future of the building will be determined. CHESNAVFACENGCOM fully expects to reoccupy the building within one year. The recommended repairs, modifications and additions which follow assume eventual, permanent CHESNAVFACENGCOM control and occupancy of the building.

The proposed floor plan is shown in Figure 4-2. The building will continue to be used as a primary storage area for rigging equipment and other material which does not require environmental control. The proposed changes are designed to streamline the building's storage efficiency and to upgrade basic facilities.

Floor space is presently 100% utilized, two-thirds for pallet storage of equipment and one-third in a center aisle for maneuvering and access. No vertical storage, however, is employed.

The proposed changes in Building 45 are given in the following sections. Tables 4-3 and 4-4 provide the details, including items, costs, proposed fiscal year and rationale.

4.2.1 Repairs

The proposed repairs to Building 45 are detailed in Table 4-3. Determination of the structural integrity of the support pilings and flooring is a prerequisite for all subsequent repairs and modifications. A detailed survey and engineering analysis is proposed for FY84. The results of the study will dictate future use of the building. The following will be determined:

- The building's capacity for continued use in its present form.
- Load bearing limitations for floor loads (presently not allowed).

If it is determined that the building cannot support these activities, the required repairs will be identified. A decision will then be made regarding the cost-benefit of repairs versus discontinuing use of the building.

Once it has been determined that continuing use of Building 45 is in the best interest of the Navy, other repairs are contemplated, as detailed in Table 4-4. All of the existing windows are deteriorated and require refurbishment and, in some cases, replacement. Subsequent to these repairs, the exterior of the building requires repainting, as badly over 75% of the wall and ceiling of the outside shed is proposed for the

4.2.2 Modifications and Additions

Modifications proposed to update and improve the habitability and efficiency of Building 45 are detailed in Table 4-4. Electrical power (110/220V, 3-phase) is brought into the building and new lighting is installed and wired. Although there are existing light fixtures and wiring (non-operational), it is outdated and will be scrapped. New lighting is installed in the form of two 250,000 BTU heaters and associated plumbing and controls. Off the existing available steam feeder line, a steam line is proposed at the northeast end of the shed.

WVCOM has had recent
Norfolk Naval Shipyard,
annex, to vacate the
each time the future of
CHESNAVFACENGCOM
building within one year.
modifications and additions
permanent CHESNAVFACENGCOM
building.

in Figure 4-2. The
Building 45 is a primary storage
for other material which
is under control. The proposed
modifications to the building's
basic facilities.

Building 45 is utilized, two-thirds for
storage and one-third in a center
aisle. No vertical storage,

Building 45 are given in the
Table 4-4 and 4-5 provide the
proposed fiscal year

Building 45 are detailed in
Table 4-3. Structural integrity
and safety is a prerequisite
for modifications. A detailed
study is proposed for FY84.
to evaluate future use of
Building 45 will be determined;

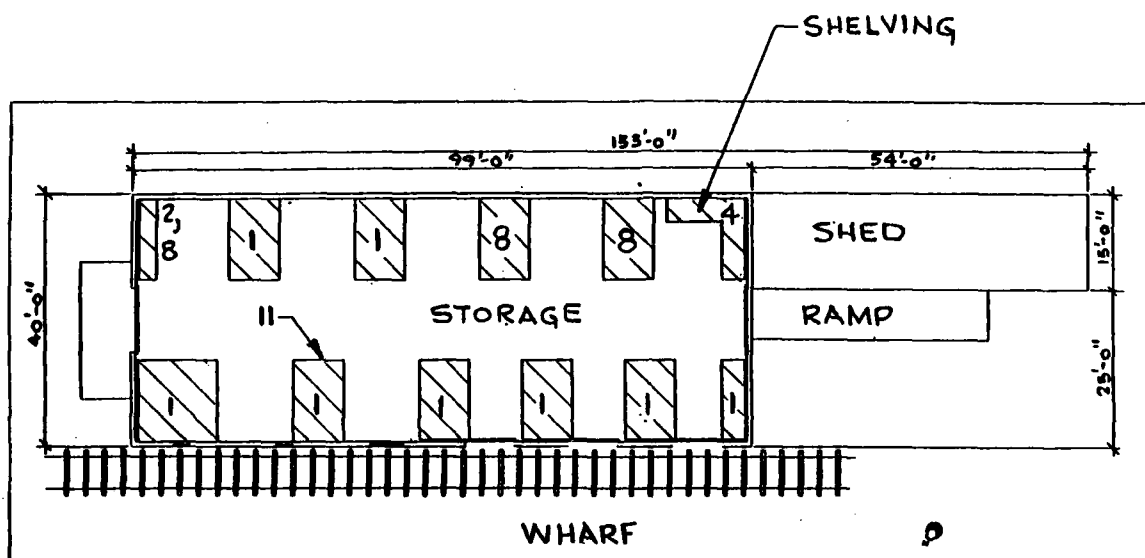
- The building's capacity for continued use
in its present form.
- Load bearing limitations for forklift operation
(presently not allowed).

If it is determined that the building cannot structurally
support these activities, the required modifications/
repairs will be identified. A decision will then have
to be made regarding the cost-benefit of the changes
versus discontinuing use of the building.

Once it has been determined that continued use of
Building 45 is in the best interest of CHESNAVFACENGCOM,
other repairs are contemplated, as detailed in Table 4-3.
All of the existing windows are deteriorated and require
refurbishment and, in some cases, replacement. Numerous
planks comprising the wooden floor also require replace-
ment. Subsequent to these repairs, the entire interior
of the building requires repainting, as it is peeling
badly over 75% of the wall and ceiling area. Repainting
of the outside shed is proposed for the same time frame.

4.2.2 Modifications and Additions

Modifications proposed to update and improve the safety,
habitability and efficiency of Building 45 are given in
Table 4-4. Electrical power (110/220V, 3 phase) will be
brought into the building and new lighting will be
installed and wired. Although there are existing fix-
tures and wiring (non-operational), it is in poor condition
and is outdated and will be scrapped. Heating will be
installed in the form of two 250,000 BTU/HR steam unit heaters
and associated plumbing and controls. The units will tap
off the existing available steam feeder located at the
northeast end of the shed.



LEGEND

1. Rigging Equipment
2. Tools and Tool Sp
3. Season Spares
4. Consumables
5. Flammables and Bc
6. Electronics
7. Mechanical
8. Miscellaneous
9. Empty Shelves and
10. Work Bench and Of

MODIFICATIONS/AD

11. Typical Installat
Rack and Pallet S

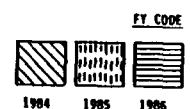
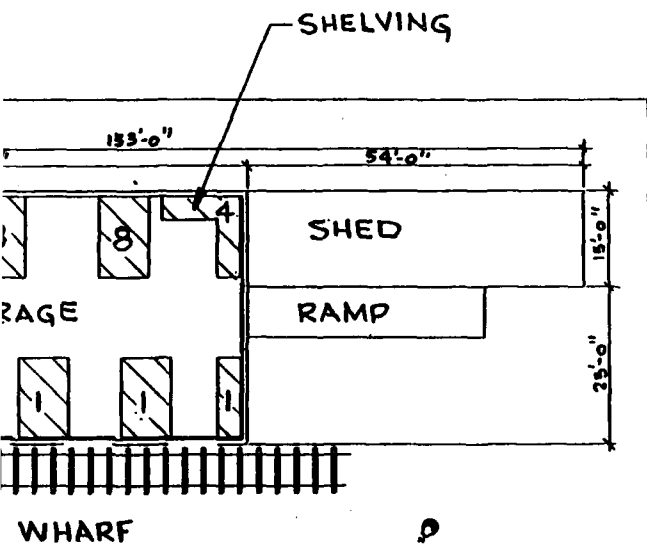


Figure 4-2: Proposed layout of building 45 showing re-arrangement of storage

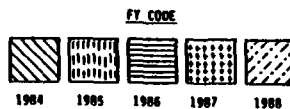


LEGEND

1. Rigging Equipment
2. Tools and Tool Spares
3. Seacon Spares
4. Consumables
5. Flammables and Bottles
6. Electronics
7. Mechanical
8. Miscellaneous
9. Empty Shelves and Pallets
10. Work Bench and Office Furniture

MODIFICATIONS/ADDITIONS

11. Typical Installation of 21 Bays of Rack and Pallet Storage.



used layout of building 45 showing re-arrangement
storage

Table 4-3

Bldg. 45					RECOMMENDED REPAIRS	
FY/FND	Problems	Repairs	Figure #/ Legend #	Est. Cost		
84/OMN	Questionable structural integrity	Inspect	4-2	\$17,350		
86/OMN	Shed on NW end deteriorated	Refurbish/paint		1,630		
86/OMN	Windows are deteriorated	Repair/replace windows		1,955		
86/OMN	Interior paint peeling	Scrape & paint		10,260		
86/OMN	Floor planks broken	Replace		3,260		
86/OMN	Heat exchanger rusted out	Replace with 2		8,560		
*Estimated costs reflect FY escalators.						

Table 4-4

Bldg. 45				RECOMMENDED MODIFICATIONS/ADDITI	
FY/FND	Problems	Mods/Additions	Fig Leg		
85/OMN	Need to hang salvage gear	Install padeyes		4-2	
85/OMN	Need storage space	Provide rack and pallet storage			
86/OMN	Wiring old	Rewire, hook up power			
*Estimated costs reflect FY escalators.					

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ST JULIENS CREEK OCEAN CONSTRUCTION EQUIPMENT INVENTORY 2/2
SUPPORT FACILITIES (U) NAVAL FACILITIES ENGINEERING
COMMAND WASHINGTON DC CHESAPEAKE W J BURTON ET AL.
AUG 83 CHES/NAVFAC-FPO-1-83(24)-VOL-1 F/G 13/3 NL

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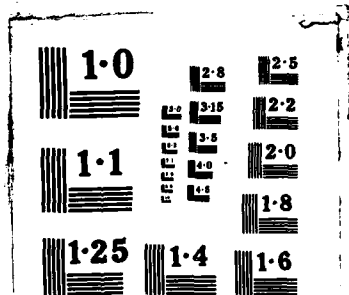


Table 4-4

Figure #/ Legend #		Est. Cost
4-2	\$17,350	
	1,630	
	1,955	
	10,260	
	3,260	
	8,560	

Bldg. 45 RECOMMENDED MODIFICATIONS/ADDITIONS					
FY/FND	Problems	Mods/Additions	Figure #/ Legend #	Est. Cost	
85/OMN	Need to hang salvage gear	Install padeyes	4-2	\$ 1,730	
85/OMN	Need storage space	Provide rack and pallet storage	11	7,715	
86/OMN	Wiring old	Rewire, hook up power		7,400	
*Estimated costs reflect FY escalators.					

Modifications will be made to improve the storage efficiency of the building. Heavy steel shelving will be procured and installed along the east wall for the vertical storage of standard pallets. The addition of shelving is planned to increase the building's storage capacity by freeing floor space and improving access. Organization of the stored material will be improved, using a zone strategy. Pad-eyes will be fabricated and installed at appropriate locations to facilitate hanging salvage and rigging gear.

4.2.3 Tool Requirements

No special tools are required for Building 45. A standard tool box will be maintained in the building for miscellaneous crate opening, band cutting and other minor storage related tasks (see section 4.1).

4.2.4 Dedicated Equipment Requirements

No special equipment is required for Building 45. Assuming the engineering analysis of the building's structural condition determines that forklift operations are feasible and safe, the facility forklift will service the building on an as needed basis. However, rack and pallet storage will be added as indicated in paragraph 4.2.2.

4.2.5 OCEI Requirements

Building 45 is generally not used to warehouse OCEI items. Presently, the only OCEI housed in the building are three salvage lift bags, which have no special storage requirements, and a Zodiac. No increase in OCEI storage in Building 45 is planned.

4.2.6 Non-OCEI Items and Spares Requirements

The temporary takeover of the building by the Norfolk Naval Shipyard will require removal and relocation of

all the material and equipment present. This opportunity will be used to reorganize the material, discarding or excessing material determined to be of little or no value to the mission of the facility. But much of the retained material for the mission will be relocated while Building 45 is unavailable.

In the long term, some reorganization of material located in Building 45 and other buildings is anticipated. Building 45 will become the facility for rigging equipment presently stored in Building 45 will be relocated to appropriate buildings. Specific equipment, SEACON spares and flares

No major changes to Building 45 are planned for the inventory reorganization.

4.2.7 Personnel Requirements

The proposed building repairs are being performed by outside contractors. The reorganization discussed in 4.2.2. The duration of the standard on-site personnel for three man months are required.

4.3 Building 83-Y

Figure 4-3 presents the floor plan of Building 83-Y showing the proposed layout. The building will be used as a primary staging area for equipment spares and other material requiring environmental control, but need not be. This plan takes advantage of the proximity to the Hardstand and pier.

the storage efficiency will be procured and vertical storage of shelving is planned to be achieved by freeing floor area of the stored equipment. Pad-mounting at appropriate locations for rigging gear.

Building 45. A standard building for miscellaneous and other minor storage

Requirements

Building 45. Assuming the building's structural conditions are feasible and the building will provide the building on and pallet storage will be 2.2.

warehouse OCEI items. The building are three special storage requirements for OCEI storage in

Requirements

by the Norfolk and relocation of

all the material and equipment presently in storage. This opportunity will be used to survey and organize the material, discarding or excessing that which is determined to be of little or no potential value to the mission of the facility. Building 83-Y will house much of the retained material for the interim period while Building 45 is unavailable.

In the long term, some reorganization of non-OCEI material located in Building 45 and between Building 45 and other buildings is anticipated. Specifically, Building 45 will become the facility rigging loft. Rigging equipment presently stored in other buildings will be relocated to Building 45. Non-rigging equipment in Building 45 will be relocated to other appropriate buildings. Specifically, the mechanical equipment, SEACON spares and flammables will be relocated.

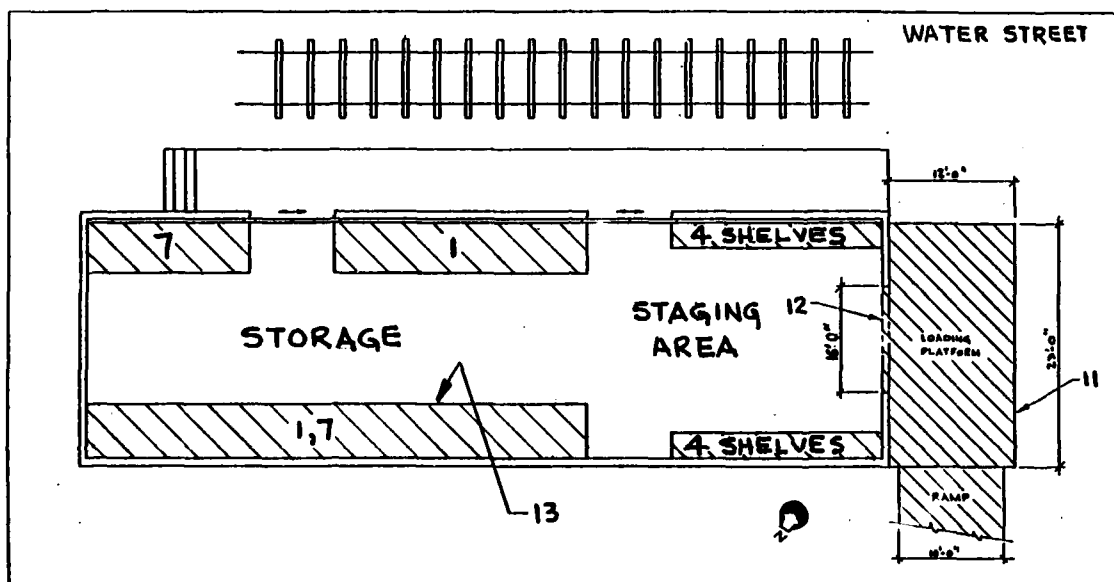
No major changes to Building 45 are required to accommodate the inventory reorganization.

4.2.7 Personnel Requirements

The proposed building repairs and modifications will be performed by outside contractors. The inventory reorganization discussed in 4.2.6 will require augmentation of the standard on-site personnel. Approximately three man months are required.

4.3 Building 83-Y

Figure 4-3 presents the floor plan of Building 83-Y showing the proposed layout. The building will be used as a primary staging area and to store machinery, equipment spares and other materials which do not require environmental control, but need to be out of the weather. This plan takes advantage of the building's proximity to the Hardstand and pier.



LEGEND

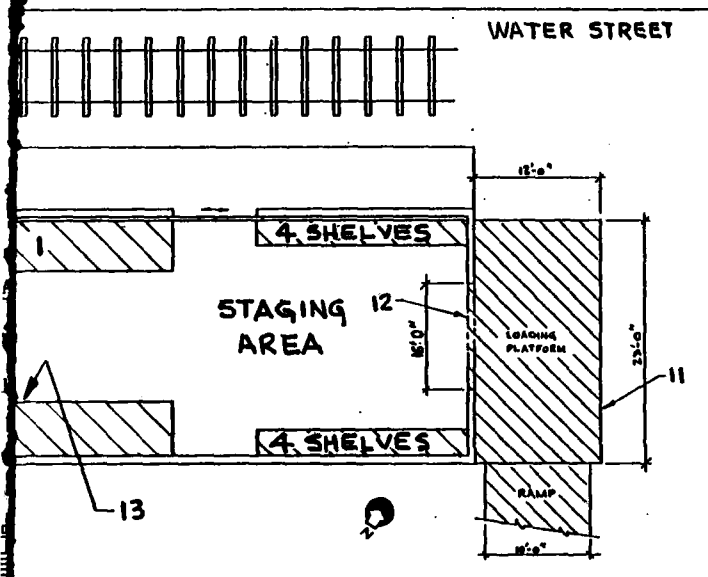
1. Rigging Eq
2. Tools and
3. Season Spa
4. Consumable
5. Flammables
6. Electronic
7. Mechanical
8. Miscellane
9. Empty Shel
10. Work Bench

MODIFICATI

11. Loading Pl
12. New Cargo
13. Typical In
- 8 Bays of



Figure 4-3: Proposed layout of building 83Y showing re-arrangement of storage, the addition of a large cargo door, loading platform and ramp on the east end.

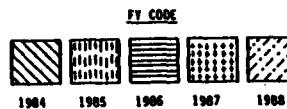


LEGEND

1. Rigging Equipment
2. Tools and Tool Spares
3. Season Spares
4. Consumables
5. Flammables and Bottles
6. Electronics
7. Mechanical
8. Miscellaneous
9. Empty Shelves and Pallets
10. Work Bench and Office Furniture

MODIFICATIONS/ADDITIONS

11. Loading Platform & Ramp
12. New Cargo Door
13. Typical Installation of a Total of 8 Bays of Rack & Pallet Storage



e 4-3: Proposed layout of building 83Y showing re-arrangement of storage, the addition of a large cargo door, loading platform and ramp on the east end.

Floor space is presently under-utilized because the building is not readily accessible by truck, having been designed for access by rail.

The proposed changes to Building 83-Y are given in Table 4-5, which provides the details including items, cost, proposed fiscal year and rationale.

Table 4-5

Bldg. 83-Y RECOMMENDED MODIFICATIONS/ADDITIONS				
FY/FND	Problems	Mods/Additions	Figure #/ Legend #	* Est. Cost
84/OMN	No truck access	Provide loading platform & forklift ramp at NE end.	4-3 11	\$19,520
84/OMN		Install loading door NE end	12	2,635
84/OMN	Need storage space	Provide rack & pallet storage	13	4,320
86/OMN	No power	Bring power to building		17,350
86/OMN	No lighting	Install lighting		6,360
*Estimated costs reflect		FY escalators.		

4.3.1 Repairs

No repairs are currently required for Building 83-Y.

4.3.2 Modifications and Additions

To provide access to the building by truck, forklift or crane, it is proposed that a 23' x 12' loading platform and forklift ramp with a 16' x 10' steel curtain door be provided at the northeast end. This will allow storage and removal of large items between the building and the Hardstand area.

Power is to be provided to the building (200 amp, 3-phase, 110/220 VAC) and interior lighting provided. Lighting for the Hardstand area is to be mounted on the exterior east wall.

Heavy-duty pallet storage racks with a capacity of 18,000 pounds per bay may be provided to more efficiently store equipment items on 48 pallets on three levels.

4.3.3 Tool Requirements

No special tools are required for Building 83-Y. However, a tool box with a few standard tools will be maintained in the building for storage related tasks.

4.3.4 Equipment Requirements

No special equipment is required for Building 83-Y, except the pallet racks noted in 4.3.2 above. Provision of the new loading platform ramp and door at the northeast end of the building will allow use of a forklift in or out of the building as required.

4.3.5 OCEI Requirements

There is no special OCEI requirement for Building 83-Y, except that some OCEI items will be stored there during staging.

4.3.6 Non-OCEI Items and Spares Requirements

During the period indicated in paragraph 4.2, while Building 45 is emptied out, some rigging equipment will be temporarily stored in 83-Y to be moved later back to 45 or another location.

Following this, reorganization of non-OCEI items and spares located in Building 83-Y and between Building 83-Y and other buildings is anticipated. Primarily, Building 83-Y, because of its proximity to the Hardstand and pier, will house machinery from the Hardstand and other ready mechanical spares. No major changes to Building 83-Y are required to accommodate the inventory reorganization.

4.3.7 Personnel Requirements

The added cargo door, loading platform and ramp and electric power will be installed by outside contractors. However, the above inventory reorganization will require some two man months augmentation to on-site labor.

4.4 Building 169-Z

Figure 4-4 presents the proposed floor plan. Due to its remote location within the facility, this building will continue to be used for long term storage for equipment and material which does not require environmental control. The proposed changes are designed to improve the inventory organization and improve access.

Floor space is presently 100% utilized. Storage efficiency, however, is poor. Vertical storage capability is only partially utilized due to lack of funding and personnel time.

Proposed changes to Building 169 are given in the following sections. Tables 4-6 and 4-7 provide details as to items of repair and modification, cost, proposed fiscal year and rationale. Since Building 169 may be reassigned to the Defense Property Disposal Office (DPDO), the major, more costly proposed modifications are scheduled for the outyears of this Plan. When a decision regarding the future of 169 is rendered, the changes schedule should be restudied.

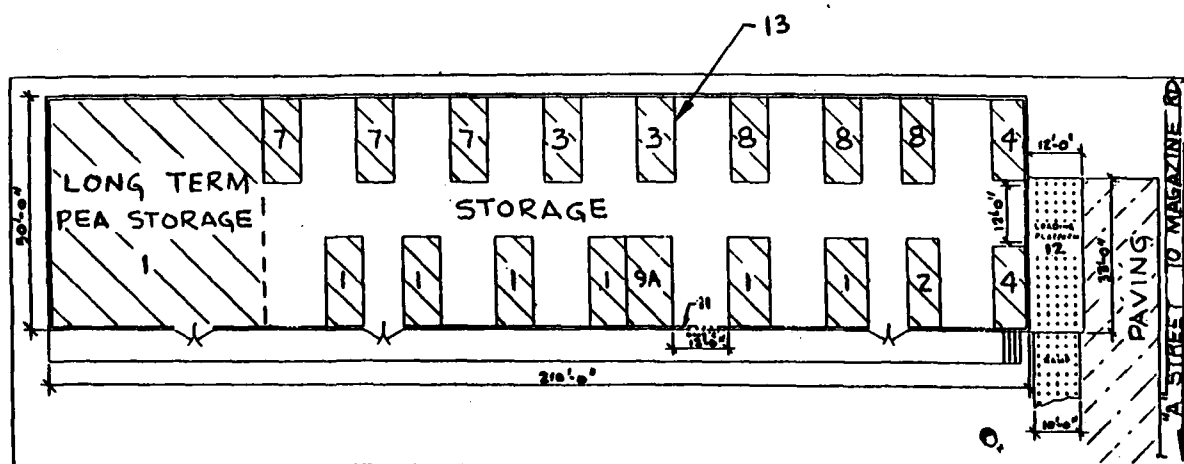
4.4.1 Repairs

Proposed repairs to Building 169 are detailed in Table 4-6, which consists of repair/rerouting of the gutters on the canopy over the loading platform. No other repairs are needed.

4.4.2 Modifications and Additions

Modifications proposed to update and improve the habitability and efficiency of Building 169 are given in Table 4-7. Electrical power (200 Amp, 3 Phase, 110/220 VAC) will be brought into the building and new lighting will be installed and wired.

Interim modifications will be made to make the building immediately accessible to large equipment. Enlargement of cargo door "C" from its present 8' 6" x 8' to 12' x 10' is proposed. A section of the canopy over the six foot wide loading platform at door "C" will have to be cut out to permit the handling of large equipment onto the loading platform by crane or from a mobile loading ramp.



LEGEND

1. Rigging Equipment
2. Tools and Equipment
3. Seasonal Supplies
4. Consumables
5. Flammables
6. Electronics
7. Mechanical
8. Miscellaneous
9. Empty Shells
10. Work Benches

MODIFICATIONS

11. Enlarged Cargo Door
12. New Cargo Door Loading Platform Ramp and Paving
13. Typical Interior Storage Unit
- 9A. Staging Area



Figure 4-4: Proposed layout of building 169-Z showing rearrangement of storage, the enlargement of cargo door "C". In 1987 and 88 the addition of a cargo door loading platform ramp and pavement is projected for the east end.

LEGEND

1. Rigging Equipment
2. Tools and Tool Spares
3. Season Spares
4. Consumables
5. Flammables and Bottles
6. Electronics
7. Mechanical
8. Miscellaneous
9. Empty Shelves and Pallets
10. Work Bench and Office Furniture

MODIFICATIONS/ADDITIONS

11. Enlarged Cargo Door
12. New Cargo Door Loading Platform Ramp and Pavement
13. Typical Installation of 14 Bays of Rack and Pallet Storage to be added.
- 9A. Staging area

FY CODE



out of building 169-2 showing rearrangement of storage, ment of cargo door "C". In 1987 and 88 the addition of loading platform ramp and pavement is projected for the

Table 4-6

Bldg. 169-Z RECOMMENDED REPAIRS				
FY/FND	Problems	Repairs	Figure #/ Legend #	Est. Cost*
84/OMN	Gutters need repair and modification	Repair/modify gutters	4-4	\$ 790
*Estimated costs reflect FY escalators.				

Table 4-7

Bldg. 169-Z RECOMMENDED MODIFICATIONS/ADDI				
FY/FND	Problems	Mods/Additions		Fi Le
84/OMN	Need larger cargo door	Expand door C		4-
84/OMN	Need forklift access	Provide portable loading ramp		
84/OMN	No crane access to platform	Cut canopy out over door C (and modify gutter)		
84/OMN	Need storage	Provide heavy-duty pallet racks		
86/OMN	No power	Power to building		
86/OMN	No light	Provide lighting		
87/OPN	No handling capability in building	Provide forklift		
87/OMN	Need cargo access east end	Provide OH cargo door east end		
87/OMN	Need cargo loading platform	Add loading platform ramp		
88/OMN	Access paving broken up	Pave access		
*Estimated costs reflect FY escalators.				

Table 4-7

REPAIRS			Bldg. 169-Z RECOMMENDED MODIFICATIONS/ADDITIONS				
	Figure #/ Legend #	Est. Cost *	FY/FND	Problems	Mods/Additions	Figure #/ Legend #	Est. Cost *
Fy	4-4	\$ 790	84/OMN	Need larger cargo door	Expand door C	4-4 11	\$ 2,055
			84/OMN	Need forklift access	Provide portable loading ramp	11	7,900
			84/OMN	No crane access to platform	Cut canopy out over door C (and modify gutter)	11	530
			84/OMN	Need storage	Provide heavy-duty pallet racks	13	3,030
			86/OMN	No power	Power to building		17,350
			86/OMN	No light	Provide lighting		9,715
			87/OPN	No handling capability in building	Provide forklift		26,420
			87/OMN	Need cargo access east end	Provide OH cargo door east end	12	3,020
			87/OMN	Need cargo loading platform	Add loading platform ramp	12	29,850
ors.			88/OMN	Access paving broken up	Pave access	12	47,350

*Estimated costs reflect FY escalators.

ected for 1987 are more permanent modifications to rove accessibility, including the addition of a 33' 2' loading platform, ramp and overhead cargo door the east end of the building. In 1988, paving of the ess to the ramp is planned.

orklift will be provided at the building to reach high pallet storage racks.

.3 Tool Requirments

special tools are required for Building 169. A box some standard tools will be kept on hand for miscel- eous work related to shipping, receiving and transfer equipment.

.4 Dedicated Equipment Requirements

cial equipment required for Building 169 is an A-frame lifting and moving heavy equipment which is presently the building, and a forklift for 14' rack and pallet rage. Procurement is proposed of a mobile loading ramp service cargo door "C" during the period prior to tallation of the permanent ramp at the east end of building.

.5 OCEI Requirements

lding 169-Z will be used to store the larger, less en used items of OCEI equipment.

.6 Non-OCEI Items and Spares Requirements

rganization of non-OCEI material, equipment and res located in Building 169 and between Building and other locations is anticipated. This building,

being somewhat distant from the other activities, will continue to provide long term storage for infrequently used items, such as the PEA system.

4.4.7 Personnel Requirements

Outside contractors will make the building modifica- tions. However, the inventory reorganization discussed above will require approximately four man months augmentation of on-site personnel.

4.5 Building 185

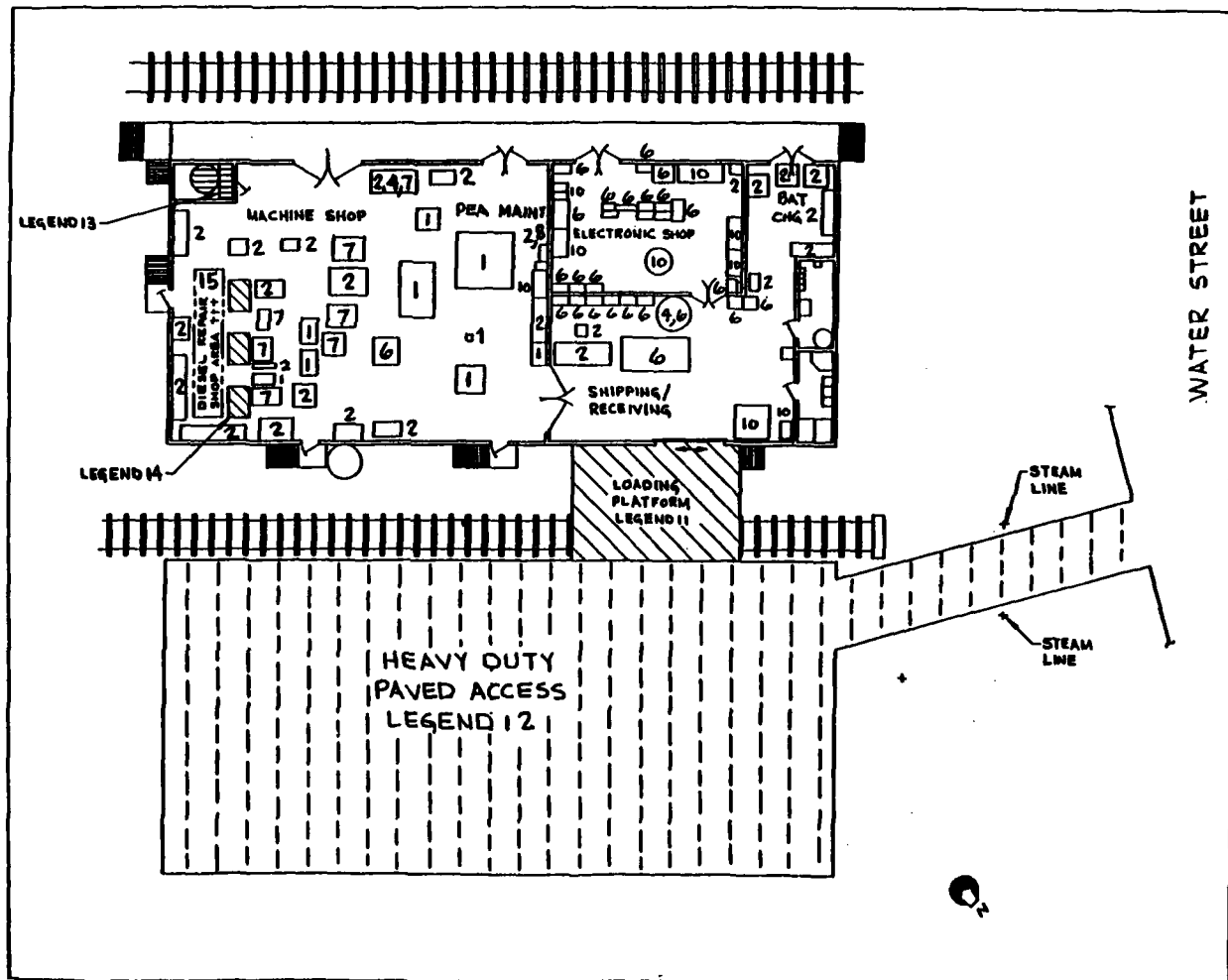
Building 185 is the primary OCEI mechanical repair facility.

The proposed floor plan for the first floor is shown in Figure 4-5. The modified second floor is shown in Figure 4-6 and the enlarged loading platform and up- graded Hardstand appear in Figure 4-5. The building will continue to be used as a mechanical, electrical and electronic repair facility, with engineering and administrative offices on the second floor. Proposed changes are for energy conservation, better accessi- bility for large equipment to be repaired or overhauled and acquisition of shop equipment for engine and winch overhaul capability.

The proposed changes to Building 185 are given in the following sections. Tables 4-8 and 4-9 provide details, including items, cost, proposed fiscal year and rationale.

4.5.1 Repairs

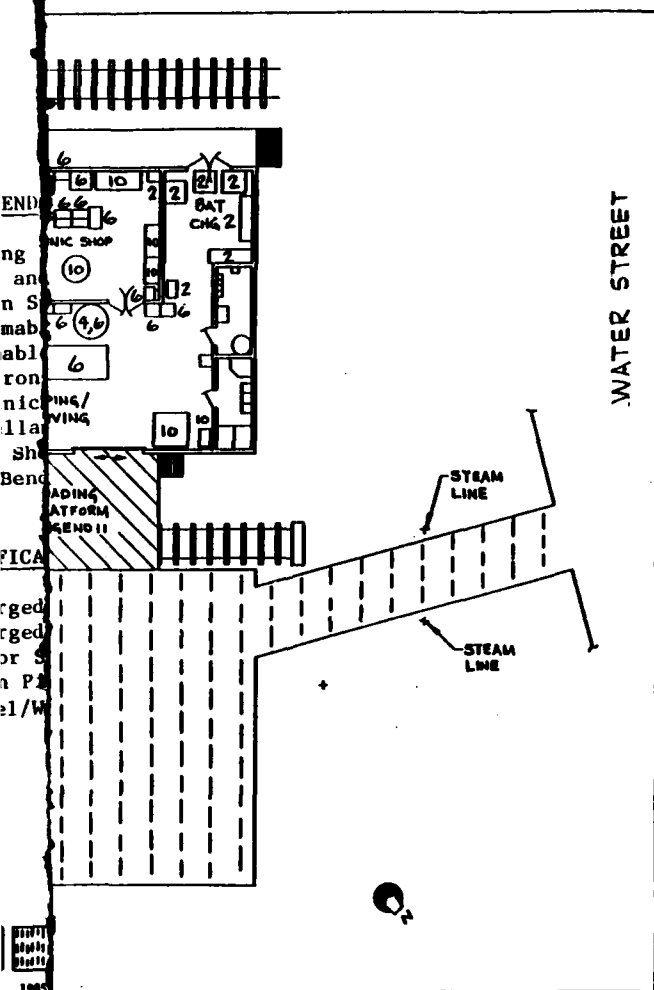
Repairs proposed for Building 185 are minimal due to recent rehabilitation work and are detailed in Table 4-8.



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5. I
6. E
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8. M
9. E
10. W

11. I
12. I
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14. I
15. I

Figure 4-5: Proposed layout of building 185, first floor showing proposed diesel/winch repair area, enlarged loading platform and hardstand, indoor stairway and gratings on drain pits.



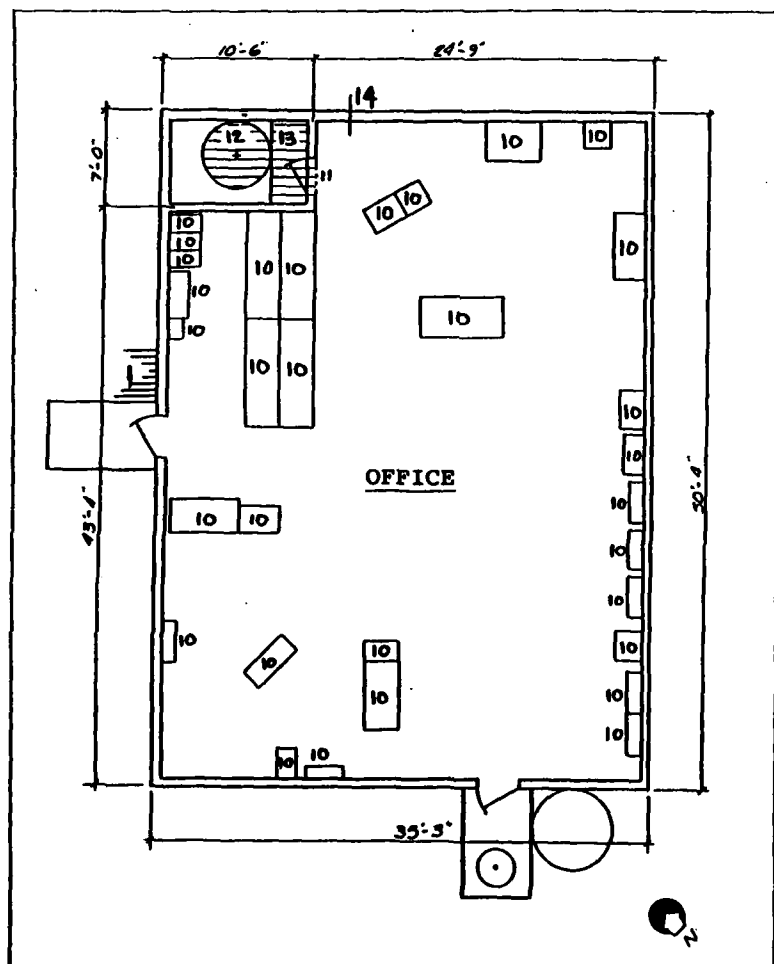
LEGEND

1. Rigging Equipment
2. Tools and Tool Spares
3. Season Spares
4. Consumables
5. Flammables and Bottles
6. Electronics
7. Mechanical
8. Miscellaneous
9. Empty Shelves and Pallets
10. Work Benches and Office Furniture

MODIFICATIONS/ADDITIONS

11. Enlarged Loading Platform
12. Enlarged Hardstand
13. Indoor Stairway
14. Drain Pit Gratings
15. Diesel/Winch Repair Area

FY_CODE



LEGEND

1. Rigging Equipment
2. Tools and Tool Spares
3. Season Spares
4. Consumables
5. Flammables and Bottles
6. Electronics
7. Mechanical
8. Miscellaneous
9. Empty Shelves and Pallets
10. Work Bench and Office Furniture

MODIFICATIONS/ADDITIONS

11. New Doorway
12. New Spiral Stairs in existing Dumb Waiter Shaft
13. Landing (OSHA)
14. Remove Hoist. Install Mimi-ranger Test Stand.

FY CODE



1984 1985 1986 1987 1988

Figure 4-6: Proposed layout of building 185, 2nd floor showing addition of an indoor staircase.

Table 4-8

Bldg. 185 1st Fl RECOMMENDED REPAIRS				
FY/FND	Problems	Repairs	Figure #/ Legend #	* Est. Cost
84/OMN	Floor loading capacity unknown	Determine safe loading capacity first floor	4-5	\$ 3,000
84/OMN	Welding smoke	Install vent for		880
85/OMN	Windows and doors leak	Seals on sliding doors		1,640
85/OMN		Caulk windows and close holes		2,300
85/OMN		Weatherstrip doors		1,840
85/OMN		Provide gutter over doors		1,835
85/OMN	Broken areas of floor	Patch floors		1,380
86/OMN	Leaks under main loading door	Provide gutter and grating under door	11	4,810
*Estimated costs reflect FY escalators.				

Table 4-9

Bldg. 185 1st Floor RECOMMENDED MODIFICATIONS		
FY/FND	Problems	Mods/Additions
84/OMN	Inadequate power	Upgrade electric power to 300A 3P 4040 VAC
84/OMN	Need flexible power source	Install transformer
84/OMN	Improve truck access	Enlarge loading platform
84/OMN	Need storage and work space Elec. Shop	Provide benches, shelves, etc.
85/OMN	Improve equip. outside access and storage	Expand paved access
87/MM/OMN & OPN	Need diesel and winch overhaul capability	Install overhaul shop
BLDG. 185 - 2nd Floor		
84/OMN	Need mini-ranger test	Provide stand
85/OMN	Hoist in way	Remove
85/OMN	Heater noisy	Replace
85/OMN	Office cold	Insulate ceiling
86/OMN		Insulate walls and paint
86/OMN	Lighting poor	Replace
86/OMN	No indoor stairs	Install
*Estimated costs reflect FY escalators.		

Table 4-9

REPAIRS			Bldg. 185 1st Floor RECOMMENDED MODIFICATIONS/ADDITIONS				
	Figure #/ Legend #	*Est. Cost	FY/FND	Problems	Mods/Additions	Figure #/ Legend #	Est. Cost
late	4-5	\$ 3,000	84/OMN	Inadequate power	Upgrade electric power to 300A 3Ph 4040 VAC	4-5	\$ 5,000
acity			84/OMN	Need flexible power source	Install transformer		1,370
for		880	84/OMN	Improve truck access	Enlarge loading platform	11	15,480
iding		1,640	84/OMN	Need storage and work space Elec. Shop	Provide benches, shelves, etc.	10	2,370
ws and		2,300	85/OMN	Improve equip. outside access and storage	Expand paved access	12	41,425
p doors		1,840	87/MM/OMN & OPN	Need diesel and winch overhaul capability	Install overhaul shop		78,830
ter		1,835	BLDG. 185 - 2nd Floor	Need mini-ranger test	Provide stand	4-6 14	2,190
s		1,380	85/OMN	Hoist in way	Remove	14	925
ter and	11	4,810	85/OMN	Heater noisy	Replace		2,760
er door			85/OMN	Office cold	Insulate ceiling		3,220
			86/OMN		Insulate walls and paint		10,585
			86/OMN	Lighting poor	Replace		8,095
			86/OMN	No indoor stairs	Install	12	10,105
rs.			*Estimated costs reflect FY escalators.				

Doors and windows need to be weatherstripped or caulked. Gutters are needed. Numerous holes in the outside walls need filling. A gutter in the floor just outside the door is needed to detour water away from the door on the truck loading platform. Crumbled concrete areas in the floor need patching and gratings are needed over the drain pits in the machine shop floor.

4.5.2 Modifications and Additions

Modifications proposed to update and improve the habitability, energy efficiency, accessibility and capabilities are given in Table 4-9 and shown in Figures 4-5 and 4-6. In the machine shop, a vent fan is needed to exhaust fumes and welding smoke. A transformer is required for testing and repairing the cable hauler and transporter.

Tooling for diesel and winch overhaul of OCEI and SEACON engines and equipment is recommended, covering Detroit 53 and 71 series diesel engines up to and including 12V71 and selected tools for the 92 series. It will include, in part, an engine stand with adapters, a dynamometer, a valve grinding machine, magnaflux testing equipment, a chemical hot dip tank, and items of special tools, as well as a basic mechanics tool box including torque and impact wrenches, sockets, combination wrenches, punches, chisels, screwdrivers and hammers. Section F of the Appendix provides additional detail.

Electric power to the first floor needs upgrading to 300 Amp, 3 Phase, 440 VAC.

Additional storage and work space is needed for the electronic shop. New work benches and shelving are proposed.

The present small loading platform on the southwest side needs replacement to provide access for large equipment, and the adjacent access area needs to be resurfaced and enlarged to provide maneuvering room during heavy-duty loading operations.

The second floor office is encumbered with an unneeded hoist which should be removed. Indoor access to the second floor is proposed by installation of a spiral staircase in the dumbwaiter shaft. A test stand for the Mini-Ranger is needed on a second floor outside the balcony for calibration purposes using a known distance.

The second floor office is extremely difficult to heat and cool. It is proposed that the ceiling and walls be insulated and the noisy unit heater be replaced by a model with a slower, quieter fan. Lighting is poor and should be upgraded.

4.5.3 Tool Requirements

A complement of typical hand tools of each trade are required for the electronic, electrical and mechanical shops in Building 185, such as torque and impact wrenches, sockets, combination wrenches, punches, chisels, screwdrivers and hammers. These items are included in the diesel repair shop budget.

4.5.4 Dedicated Equipment Requirements

A forklift, a pallet jack and an A-frame are required for handling heavy equipment that is moved in and out of the building. The electronic shop requires such items as power supply, electronic degreaser and charger, as well as test equipment.

The mechanical shop has a power saw, compressor, press, drill press, welding and cutting equipment.

4.5.5 OCEI Requirements

Building 185 is the primary support facility for OCEI maintenance activities and includes a dedicated area for the Propellant Embedment Anchor system. The suite of mechanical equipment is also designed for general maintenance of OCEI winches, generators and cable handling machinery, while the electrical and electronics shop, including the battery charging area, support the electrical/electronics equipment.

4.5.6 Non-OCEI Items and Spares Requirements

No items, except shop and test equipment, are to be stored in Building 185, except during repair, calibration or overhaul. The underwater television, linear machine and cable transporter, presently located in 185, will be permanently relocated to 169-Z.

4.5.7 Personnel Requirements

Building repairs/modifications/additions will be accomplished by outside contractors. No significant man hours will be spent moving out the few items now stored in the building.

The shop area is currently staffed by two electronics technicians and two mechanics. In order to take full advantage of the repair capability presently on hand, an additional mechanic/machinist who specializes in diesel engines and hydraulics is recommended.*

4.6 Building 209-X

The floor plan is shown in Figure 4-7. The building is presently used to store paint and associated

*Budgeting for a mechanic is not included herein, since addition of the billet is already in process.

materials. These will be moved to Building 209-X will be used to store will provide a safe and segregated lo

4.6.1 Repairs

There are no repairs required.

4.6.2 Modifications/Additions

There are no modifications or additions to Building 209-X to accommodate the amount of flammables.

4.6.3 Tool Requirements

No special tools are required for the

4.6.4 Dedicated Equipment Requirements

Fire extinguishers are needed for flammables.

4.6.5 OCEI Requirements

There are no OCEI requirements.

4.6.6 Non-OCEI Items and Spares Requirements

There are no non-OCEI requirements.

4.6.7 Personnel Requirements

It is estimated that one-half man week will be required to transfer present paint and supplies and bring the flammable material in for

materials. These will be moved to Building 273 and Building 209-X will be used to store flammables, which will provide a safe and segregated location.

4.6.1 Repairs

There are no repairs required.

4.6.2 Modifications/Additions

There are no modifications or additions required for Building 209-X to accommodate the anticipated storage of flammables.

4.6.3 Tool Requirements

No special tools are required for the building.

4.6.4 Dedicated Equipment Requirements

Fire extinguishers are needed for flammable storage.

4.6.5 OCEI Requirements

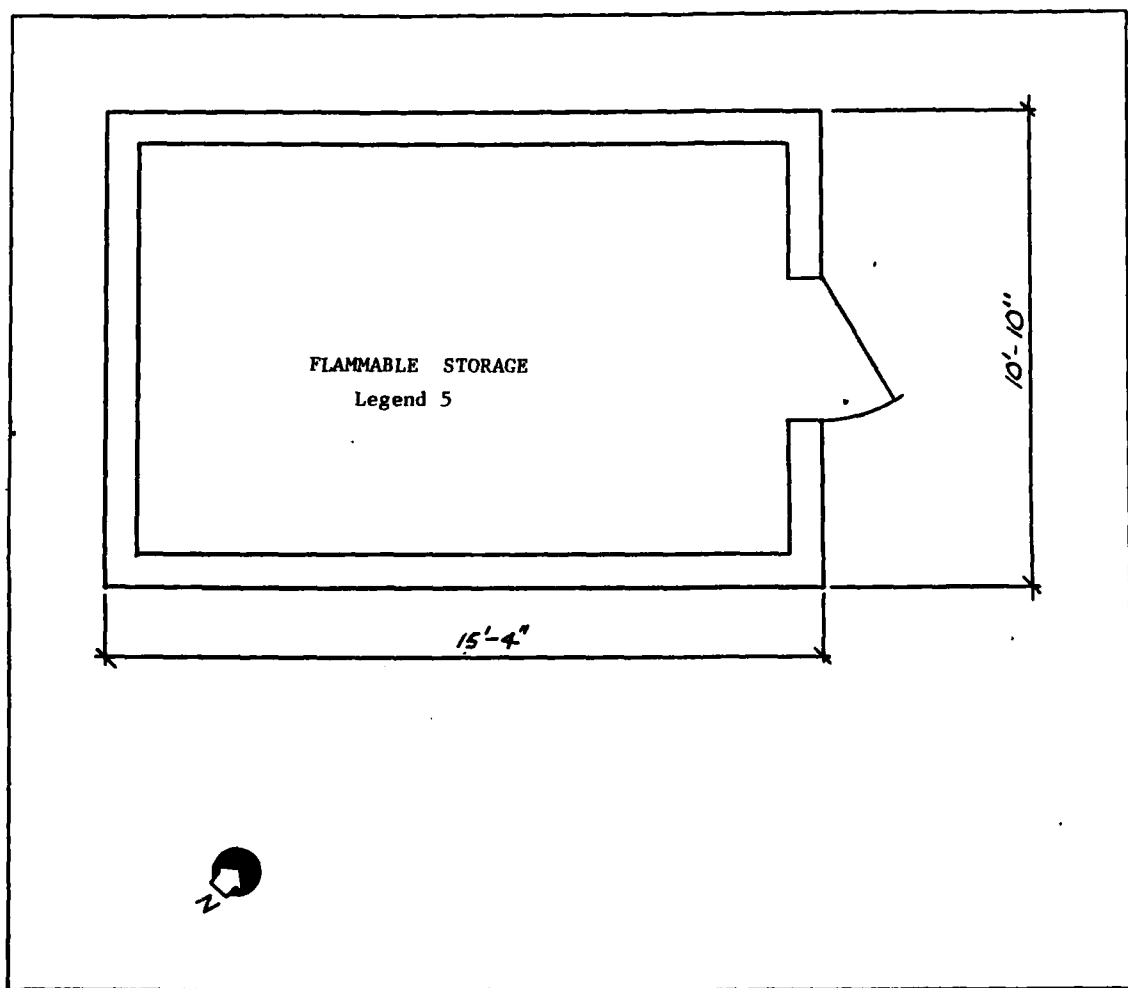
There are no OCEI requirements.

4.6.6 Non-OCEI Items and Spares Requirements

There are no non-OCEI requirements.

4.6.7 Personnel Requirements

It is estimated that one-half man week will be required to transfer present paint and supplies to Building 209 and bring the flammable material in from the other buildings.



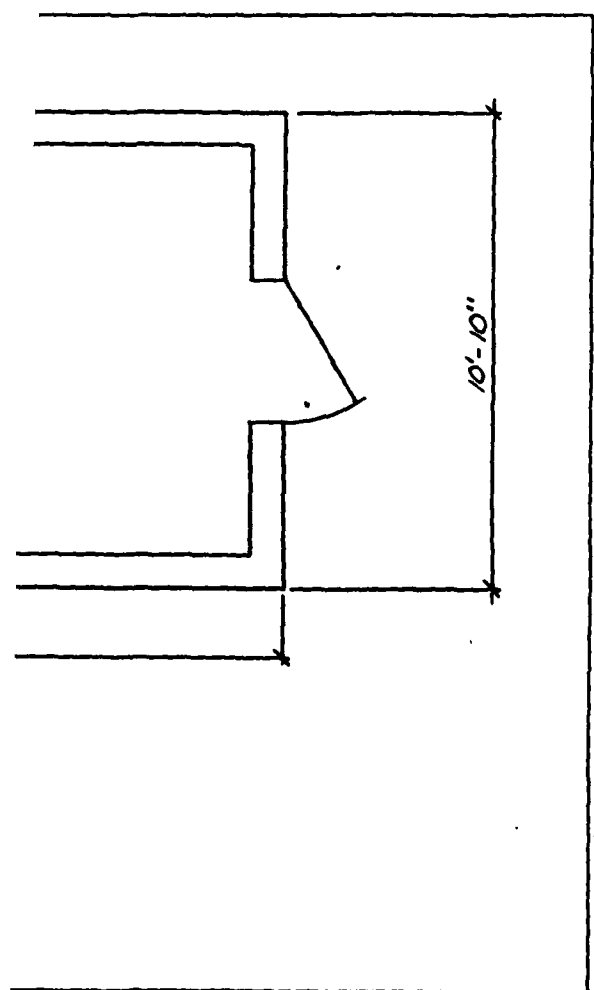
LEGEND

1. Rigging Equipment
2. Tools and Tool Spar
3. Seacon Spares
4. Consumables
5. Flammables and Bott
6. Electronics
7. Mechanical
8. Miscellaneous
9. Empty Shelves and P
10. Work Bench and Offi

MODIFICATIONS/ADDIT

None

Figure 4-7: Shows the proposed usage of building 209X for flammable storage.



LEGEND

1. Rigging Equipment
2. Tools and Tool Spares
3. Season Spares
4. Consumables
5. Flammables and Bottles
6. Electronics
7. Mechanical
8. Miscellaneous
9. Empty Shelves and Pallets
10. Work Bench and Office Furniture

MODIFICATIONS/ADDITIONS

None

was the proposed usage of building 209X for
flammable storage.

2

4.7 Building 252

The proposed floor plan is shown in Figure 4-8. The building will continue to be used as the administrative office for the FPO-1 on-site personnel. The proposed changes are designed to increase working space and improve energy efficiency.

Floor space is presently 100% utilized.

The proposed changes to Building 252 are given in the following section and Table 4-10 provides details, including items, cost, proposed fiscal year and rationale.

Table 4-10

Bldg. 252 RECOMMENDED MODIFICATIONS/ADDITIONS				
FY/FND	Problems	Mods/Additions	Figure #/ Legend #	Est. Cost
84/OMN	Heat loss Water leak	New front door	4-8	\$ 768
		New windows		1,755
84/OMN	Heat Loss	Insulated Drop ceiling		1,440
		Insulate/panel walls		1,800
84/OMN	Need more office space	Eliminate 1/4 men's room & open wall	13,14	3,600
84/OMN		Eliminate 1/4 ladies' room & cut door		3,600

*Estimated costs reflect FY escalators.

4.7.1 Repairs

There are no repairs needed on Building 252; however, modifications are proposed to provide more office area and to improve the energy efficiency are discussed below.

4.7.2 Modifications/Additions

The front door is battered and leaks air and water and should be replaced, as should the canopy windows which do not close and seal properly. In addition to these, an insulated drop ceiling and insulated walls will upgrade the habitability of the office, as well as improve its energy efficiency.

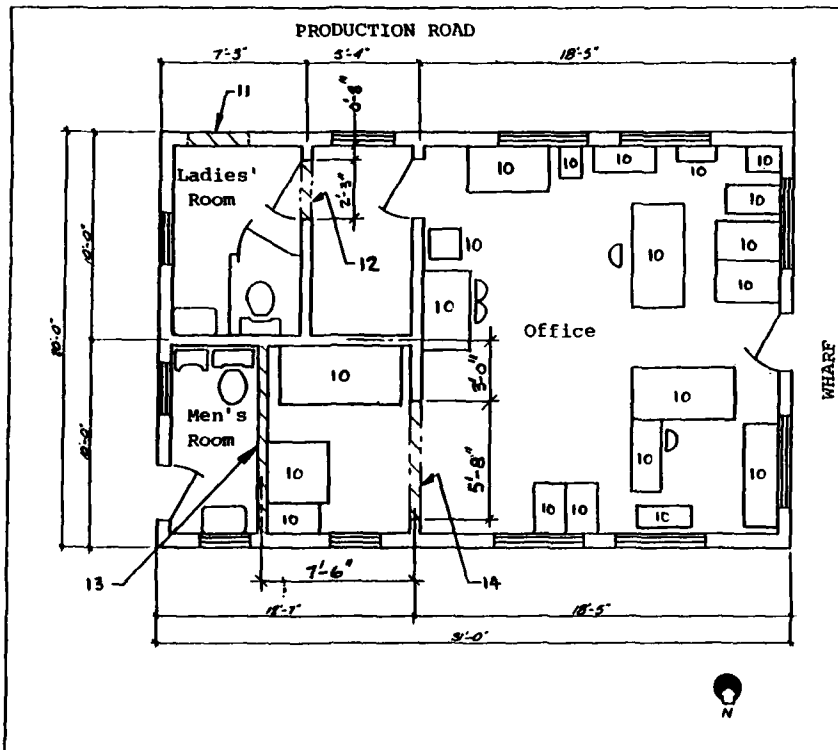
To increase office space, the lavatories may be reduced in size without any loss in comfort. To accomplish this, the fixtures will be removed from the half of the men's room next to the office and a new wall built across the center. An archway will be cut through the wall from the new space to the office. The present toilet fixtures will be removed from the ladies' room off the office and a door cut through the wall to the adjacent ladies' room entered from outdoors. The outside door will be closed. Some filing cabinets and equipment may be moved into the new space obtained to improve efficiency and working conditions.

4.7.3 Tool Requirements

There are no tools required in this office building.

4.7.4 Equipment Requirements

The office is presently equipped with a central phone system, as well as a copier and container for classified



LEGEND

1. Rigging Equipment
2. Tools and Tool Spares
3. Season Spares
4. Consumables
5. Flammables and Bottles
6. Electronics
7. Mechanical
8. Miscellaneous
9. Empty Shelves and Pallets
10. Work Bench and Office Furniture

ADDITIONS/MODIFICATIONS

11. Wall Up Existing Door
12. New Door
13. Install New Wall
14. New Archway

BLDG 252

SCALE: $\frac{1}{8}$ " = 1'-0"

Figure 4-8: Proposed layout of building 252 showing enlargement of office area by eliminating $\frac{1}{2}$ of the ladies Room and $\frac{1}{2}$ mens room.

material. Addition of a desk top computer is anticipated. This equipment has no special requirements.

4.7.5 OCEI Requirements

There are no OCEI requirements.

4.7.6 Non-OCEI Requirements

Modifications and reorganization of the building is covered in section 4.7.2, and equipment requirements are outlined in 4.7.4 above.

4.7.7 Personnel Requirements

Modifications and improvements to the building will be performed by outside contractors. No change in personnel requirements is anticipated for regular administrative operations.

4.8 Building 273

The floor plan is shown in Figure 4-9. No changes are planned for this building which is entirely satisfactory for the storage of paint and supplies for which it will continue to be used.

4.8.1 Repairs

There are no repairs required.

4.8.2 Modifications and Additions

There are no modifications or additions required for Building 273.

4.8.3 Tool Requirements

No special tools are required for the building.

4.8.4 Dedicated Equipment Requirements

Fire extinguishers are needed for paint storage.

4.8.5 OCEI Requirements

There are no OCEI requirements.

4.8.6 Non-OCEI Requirements

There are no non-OCEI requirements.

4.8.7 Personnel Requirements

An estimated one-half man week is required to present paint storage and accept additional material from Building 209.

4.9 Hardstand, Outside Storage Area

The equipment and material presently stored on the hardstand is randomly and inefficiently located. Many pieces of machinery require protection from weather. Potential storage area is only 30% utilized, although forklift and crane access is available.

The proposed changes discussed below are designed to better organize the material and equipment and provide access to Building 83-Y to provide protection from weather by either relocation to inside storage or individual shelter.

is anticipated.
i.

4.8.3 Tool Requirements

No special tools are required for the building.

4.8.4 Dedicated Equipment Requirements

Fire extinguishers are needed for paint storage.

4.8.5 OCEI Requirements

ilding is
equirements

There are no OCEI requirements.

4.8.6 Non-OCEI Requirements

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change in
regular

There are no non-OCEI requirements.

4.8.7 Personnel Requirements

An estimated one-half man week is required to rearrange present paint storage and accept additional inventory from Building 209.

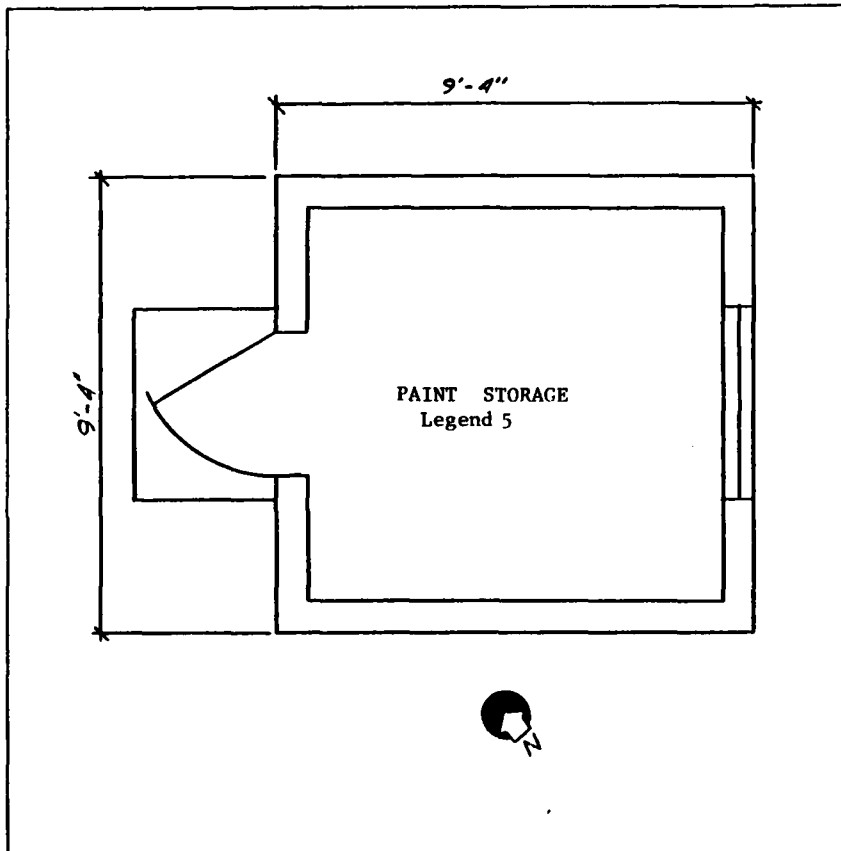
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4.9 Hardstand, Outside Storage Area

The equipment and material presently stored on the Hardstand is randomly and inefficiently located. In addition, many pieces of machinery require protection from the weather. Potential storage area is only 30 to 40% utilized, although forklift and crane access is adequate.

quired for

The proposed changes discussed below are designed to better organize the material and equipment and improve access to Building 83-Y to provide protection from the weather by either relocation to inside storage areas or individual shelter.



LEGEND

1. Rigging Equipment
2. Tools and Tool Spares
3. Season Spares
4. Consumables
5. Flammables and Bottles
6. Electronics
7. Mechanical
8. Miscellaneous
9. Empty Shelves and Pallets
10. Work Bench and Office Furniture

MODIFICATIONS/ADDITIONS

NONE

Figure 4-9: Showing building 273 with continued usage for paint storage.

The proposed changes to the Hardstand are given in the following section. Table 4-11 provides the details, including items, cost, proposed fiscal year and rationale.

4.9.1 Repairs

There are no repairs needed for this area.

Table 4-11

Hardstand RECOMMENDED MODIFICATIONS/ADDITIONS				
FY/FND	Problems	Mods/Additions	Figure #/ Legend #	Est. Cost
84/OMN	Need fresh water	Pipe in water	4-10 12	\$ 5,265
85/OMN	Need shelter for equipment	Provide storage huts		15,200
86/OMN	Need security lighting	Floodlights east Building 83-Y	11	630
87/OMN	Need winch test bed	Provide 100 ton winch bed	14	30,215
	Plus A&E Services			1,810
88/OPN	Need winch test facilities	Provide two 100 ton deadmen	14	45,465
	Plus A&E Services			2,725
88/OMN	Need more test & storage space	Pave 10,750 square feet	13	104,190

*Estimated costs reflect FY escalators.

4.9.2 Modifications and Additions

Fresh water is needed at the Hardstand to clean up and wash down equipment. Floodlights are to be mounted on the east side of Building 83-Y to provide security lighting. A 100 ton winch test bed and two 100 ton

deadmen and additional paving are planned at the northeast end. Details of the winch are provided in the Appendix, Section 4.9.3.

4.9.3 Tool Requirements

No special tools are required for the work. Standard tools are used there will be brought or 185 on an as needed basis for the work.

4.9.4 Dedicated Equipment Requirements

Special equipment required for the work includes a universally used facility forklift and portable shelters are budgeted for the work, but are too large to be covered.

4.9.5 OCEI Requirements

Space on the Hardstand is required for OCEI equipment. Many of the smaller and machinery will be moved under cover when the loading door, loading platform is completed as outlined in paragraph 4, followed by a reorganization of equipment on the Hardstand.

The 100 ton test bed and deadmen will facilitate testing of OCEI winches.

4.9.6 Non-OCEI Items and Spares

Smaller pieces of non-OCEI machinery are to be moved into Building 83-Y, for protection of the Hardstand for efficient protection.

are given in the details, year and rationale.

rd. area.

ts

TIONS/ADDITIONS		
ations	Figure #/ Legend #	Est. Cost
er	4-10 12	\$ 5,265
orage		15,200
east	11	630
8-Y		
ce 10 ton	14	30,215
n		
and		
100 ton	14	1,810
		45,465
		2,725
square	13	104,190

ions

stand to clean up and
be mounted on
provide security
and two 100 ton

deadmen and additional paving are planned at the northeast end. Details of the winch test facility are provided in the Appendix, Section F.

4.9.3 Tool Requirements

No special tools are required for the Hardstand. What tools are used there will be brought from Building 43, 83-Y or 185 on an as needed basis for the task being performed.

4.9.4 Dedicated Equipment Requirements

Special equipment required for the Hardstand are the universally used facility forklift and crane. Eight portable shelters are budgeted for large equipment which need to be covered, but are too large to move indoors.

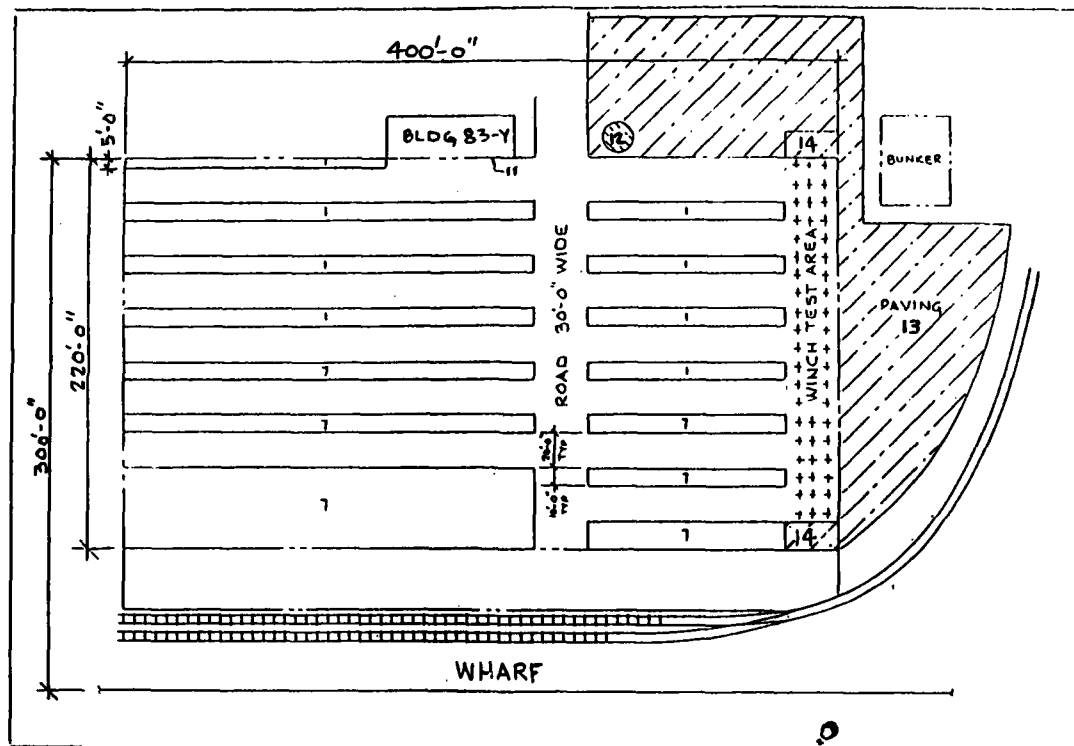
4.9.5 OCEI Requirements

Space on the Hardstand is required for storage of larger OCEI equipment. Many of the smaller pieces of equipment and machinery will be moved undercover in Building 83-Y when the loading door, loading platform and ramp are completed as outlined in paragraph 4.3. This will be followed by a reorganization of equipment left on the Hardstand.

The 100 ton test bed and deadmen will be installed to facilitate testing of OCEI winches and rigging equipment.

4.9.6 Non-OCEI Items and Spares Requirements

Smaller pieces of non-OCEI machinery and equipment are to be moved into Building 83-Y, followed by a reorganization of the Hardstand for efficiency of access and protection.



LEGE

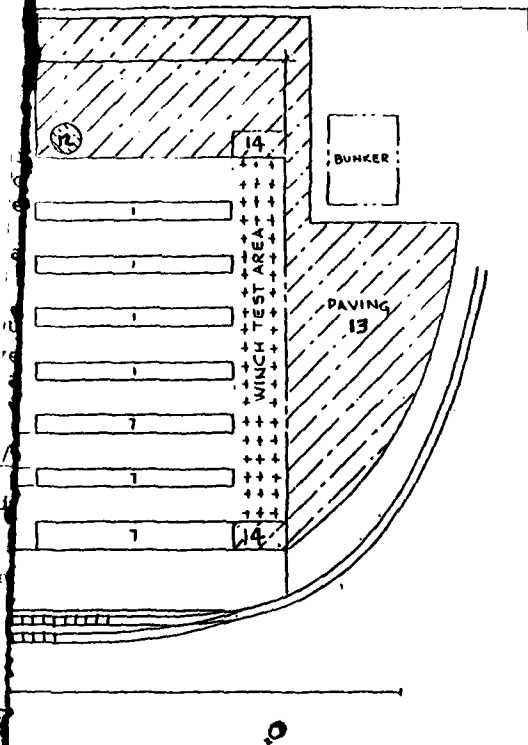
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3. Seacon
4. Consuma
5. Flammab
6. Electro
7. Mechani
8. Miscell
9. Empty S
10. Work Be

MODIFICAT

11. Security I
12. Fresh Water
13. New Pavir
14. Winch Tes



Figure 4-10: Proposed layout of the Hardstand showing re-arrangement of storage and addition of fresh water, security lighting, a winch test area and additional paving.

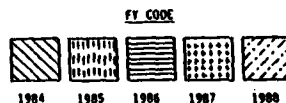


LEGEND

1. Rigging Equipment
2. Tools and Tool Spares
3. Season Spares
4. Consumables
5. Flammables and Bottles
6. Electronics
7. Mechanical
8. Miscellaneous
9. Empty Shelves and Pallets
10. Work Bench and Office Furniture

MODIFICATIONS/ADDITIONS

11. Security Lighting
12. Fresh Water
13. New Paving
14. Winch Test Area



4-10: Proposed layout of the Hardstand showing re-arrangement of storage and addition of fresh water, security lighting, a winch test area and additional paving.

4.9.7 Personnel Requirements

Modifications and additions outlined in paragraph 4.9.2 will be accomplished by outside contractors. Rearranging and moving equipment and materials from the Hardstand will require approximately two man months of increased standard on-site effort.



5.0 SUMMARY - FIVE YEAR PLAN

The pertinent information pertaining to prioritization and scheduling of construction and procurements to be accomplished as part of the Five Year Plan are presented in this chapter. Detailed written and graphic descriptions of repairs/modifications/additions to the facilities, plus justifications for planned disbursements, have been presented in Chapter 4.

The plan is presented in tabular form with fiscal year used as the lead entry to the table. For each fiscal year, the repairs/modifications/additions pertaining to the buildings, their associated grounds, and the Hardstand are assembled in decreasing order of priority. Likewise, the succession for acquiring tools, equipment, OCEI and non-OCEI support items and spares are listed in decreasing order of priority as well.

The source of funds (O&MN and OPN) are identified for each itemized repair/modification/addition to buildings, their associated grounds and the Hardstand, as well as for various other purchases. These are centrally managed funds unless identified as "MM" (Mission Management).

The proposed tasks are given in Table 5-1 arranged by building number and given in order of priority within each building. The table presents in a concise manner the catalog of proposed changes and the fiscal year that they are planned.

5.1 Rationale

The sequence given in Table 5-1 further represents consideration of logistic, administrative and budgetary aspects of individual tasks and the interrelationship between similar tasks. For example, where possible, identical changes for two or more locations (loading platforms, etc.) have been planned for the same fiscal

year in order to reduce costs and improve of preparing specifications, obtaining bidding the work, as well as improve the construction.

As indicated in paragraphs 3.2.2 and 4.2, requires an assessment of its structural before any permanent capital investment in Paragraph 3.2.4 warns that the Norfolk Naval 1986 Master Plan calls for assimilation of 169-Z into the Defense Property Disposal Salvage Yard. Therefore, changes proposed are carefully weighed. Major expenditures those buildings are planned for later year determination of their ultimate disposition.

Planning has taken into consideration the work, the level of contract administration Control, as well as Defense Acquisition Regulation (DAR) required for capital maintenance under Naval Facilities Engineering Command.

Funding prior to FY 1987 will be O&MN mon funds in addition to O&MN funds are expected in FY's 1987 and 1988. It is intended funds will be applied to the procurement for two 100 ton deadmen for the winches the special tools and equipment needed to overhaul of Detroit diesel engines of 53 up to and including 12V71.

5.2 Recommendations

The changes detailed in Table 5-1 and the tion represent the primary recommendation First priority is to make Buildings 43, 8 and 185 more accessible by truck and more for the movement of large equipment from to another within the facility by road.

year in order to reduce costs and improve the efficiency of preparing specifications, obtaining bids and monitoring the work, as well as improve the efficiency of construction.

As indicated in paragraphs 3.2.2 and 4.2, Building 45 requires an assessment of its structural capacity before any permanent capital investment is made. Paragraph 3.2.4 warns that the Norfolk Naval Shipyard 1986 Master Plan calls for assimilation of Building 169-Z into the Defense Property Disposal Office (DPDO) Salvage Yard. Therefore, changes proposed for improvement are carefully weighed. Major expenditures for those buildings are planned for later years, pending determination of their ultimate disposition.

Planning has taken into consideration the quality of work, the level of contract administration, Quality Control, as well as Defense Acquisition Regulations (DAR) required for capital maintenance and construction under Naval Facilities Engineering Command.

Funding prior to FY 1987 will be O&MN monies, while OPN funds in addition to O&MN funds are expected to be available in FY's 1987 and 1988. It is intended that OPN funds will be applied to the procurement of a forklift for two 100 ton deadmen for the winch test area and for the special tools and equipment needed to set up basic overhaul of Detroit diesel engines of 53 and 71 series, up to and including 12V71.

5.2 Recommendations

The changes detailed in Table 5-1 and their prioritization represent the primary recommendations of the study. First priority is to make Buildings 43, 83-Y, 169-Z and 185 more accessible by truck and more convenient for the movement of large equipment from one place to another within the facility by road. The

Table 5-1

REPAIRS/MODIFICATIONS/ADDITIONS BY FISCAL YEAR

Bldg.	Item	Funding	Estimated Cost				
			1984	1985	1986	1987	1988
43 (para 4.1)	Adapt building to truck loading vs. railroad. Enlarge SW cargo door.	OMN	1,475				
	Enlarge SW loading platform	OMN	7,450				
	Provide enclosed carpenter shop	OMN	11,610				
	Heat system dangerously rusted. New 2" lines, valves and fittings.	OMN		6,700			
	Weatherstrip doors. Repair Windows	OMN		1,070			
	Replace front entry. Provide door locks.	OMN		810			
	Provide environmental control unit for northeast office.	OMN		810			
	Pave access.	OMN		12,980			
	Provide environmental control storage for electronics	OMN		16,070			
	Move breaker panel indoors.	OMN		2,100			
45 (para 4.2)	Inspect and analyze structural integrity	OMN	17,350				
	Install padeyes to hang salvage gear	OMN		1,730			
	Provide rack and pallet storage	OMN		7,715			

Table 5-1 (Cont'd) REPAIRS/MODIFICATIONS/ADDITIONS BY FISCAL YEAR

Bldg.	Item	Funding	Estimated Cost				
			1984	1985	1986	1987	1988
83-Y (Para 4.3)	Refurbish deteriorated shed on northwest end	OMN			1,630		
	Repair, replace deteriorated windows	OMN			1,955		
	Scrape peeling interior paint and repaint	OMN			10,260		
	Replace broken floor planks	OMN			3,260		
	Replace rusted out heat exchanger with 2	OMN			8,560		
	Rewire and hook up power	OMN			7,400		
	Provide loading platform and forklift ramp northeast end	OMN	19,520				
	Install loading door northeast end	OMN	2,635				
	Provide rack and pallet storage	OMN	4,320				
	Bring power to building (200A, 3PH, 110/220 VAC)	OMN			17,350		
169-Z	Install lighting	OMN			6,360		
	Expand cargo door C	OMN	2,055				
	Cut out canopy over door C for crane access	OMN	530				
	Provide portable loading ramp	OMN	7,900				
	Repair, replace gutters, downspouts	OMN	790				
	Provide pallet racks	OMN	3,030				

Table 5-1 (Cont'd) REPAIRS/MODIFICATIONS/ADDITIONS BY FISCAL YEAR

Bldg.	Item	Funding	Estimated Cost				
			1984	1985	1986	1987	1988
185 (Para 4.5)	Bring 200A, 3PH, 110/220VAC	OMN			17,350		
	Provide lighting	OMN			9,715		
	Provide forklift	OPN				26,420	
	Provide large overhead door east end of Building	OMN				3,020	
	Provide ramp and loading platform east end of Building	OMN				29,850	
	Pave access east end of Building	OMN					47,350
	Determine safe loading capacity 1st floor	OMN	3,000				
	Install vent fan to remove welding smoke and gases	OMN	880				
	Upgrade electric power to 300A, 3PH, 440 VAC	OMN	5,000				
	Install transformer for flexible power source	OMN	1,370				
	Enlarge loading platform for truck access	OMN	15,480				
	Provide benches, shelves, etc., for storage/work space Electric Shop	OMN	2,370				
	Provide mini-ranger test stand	OMN	2,190				
	Insulate ceiling of office	OMN		3,220			

Table 5-1 (Cont'd) REPAIRS/MODIFICATIONS/ADDITIONS BY FISCAL YEAR

Bldg.	Item	Funding	Estimated Cost				
			1984	1985	1986	1987	1988
252 (Para 4.7)	Put seals on sliding doors	OMN		1,640			
	Caulk windows and close holes	OMN		2,300			
	Patch broken areas of floor	OMN		1,380			
	Provide gutter, etc., over doors	OMN		1,835			
	Remove hoist	OMN		925			
	Replace noisy heater	OMN		2,760			
	Weatherstrip doors	OMN		1,840			
	Improve equipment access and expand paved area	OMN		41,425			
	Gutter and grate under main loading door to prevent water entry				4,810		
	Insulate walls - paint office	OMN			10,585		
	Replace poor office lighting	OMN			8,095		
	Install indoor stairway	OMN			10,105		
	Install diesel and winch overhaul shop tools and equipment	MM/OMN & OPN				78,830	
	Install new front door to reduce heat loss and prevent water leak	OMN	768				
	Provide new windows	OMN	1,755				
	Insulate drop ceiling to reduce heat loss	OMN	1,440				

Table 5-1 (Cont'd) REPAIRS/MODIFICATIONS/ADDITIONS BY FISCAL YEAR

Bldg.	Item	Funding	Estimated Cost				
			1984	1985	1986	1987	1988
Hardstand (Para 4.9)	Insulate/panel walls	OMN	1,800				
	Eliminate 1/2 men's room and open wall for more office space	OMN	3,600				
	Eliminate 1/2 ladies' and cut door	OMN	3,600				
	Pipe in fresh water	OMN	5,265				
	Provide equipment storage huts			15,200			
	Provide security lighting - floodlight east side 83-Y	OMN			630		
	Provide 100 ton winch bed	OMN				30,215	
	Provide A&E Services @ 6%	OMN				1,810	
	Provide two 100 ton deadmen	OPN					45,465
	Provide A&E Services @ 6%	OPN					2,725
	Pave additional 10,750 square feet	OMN					104,190
	SUB TOTAL		127,183	122,510	118,065	170,145	199,730
	Estimated Administration Costs FPO-1	MM	16,845	17,673	18,504	19,337	20,207
	Manpower augmentation for managing equipment and streamlining operations	OMN	26,034	25,535			
	BFR Approvals	MM	6,000				
	ANNUAL TOTALS		176,062	165,718	136,569	189,482	219,937

addition of rack and pallet storage for more efficient use of floor space and the rearrangement of storage areas to improve warehousing efficiency is needed in Buildings 45, 83-Y and 169-Z. Further priorities are established to fit costs within budget limits in a workable plan that accomplishes the most needed items first. These needs include bringing power and lighting to storage Buildings 45, 83-Y and 169-Z.

Energy conservation is given high priority; the heating systems and insulation in Buildings 43, 252 and 185 are extremely inefficient and need to be upgraded to improve habitability in an energy-intelligent manner. Plans for improvements, modifications or additions to the buildings reflect energy consciousness which will return investments in capital improvements as savings in energy costs to the Navy. The plans include overhead, wall and floor insulation. Deteriorated windows and doors should be replaced with modern thermally insulated units. Replacement heat exchangers are specified for performance efficiency as well as price.

A system for more efficiently organizing material stored in the buildings and the Hardstand is recommended as detailed in Chapter 4.0. Material and equipment should be categorized and organized for storage by building and within each building.

The building layouts reflect conversion to a rack and pallet storage system set up in aisles and islands which provides a 12 foot wide forklift access to all material.

The acquisition of additional rack and pallet storage units will further optimize the use of floor space

and increase the flexibility to change the rack configuration or change locations. Changes in OCEI Support Facility requirements or the addition of new equipment mandates maximum flexibility. Current planning addresses this need, such as the procurement of mobile loading ramps which can be moved to a number of buildings temporarily or used to load trucks or railroad cars from the Hardstand.

An expeditious determination of the dispositions of Buildings 45 and 169-Z is required in order to assure uninterrupted operation of the facility and to minimize the costs of relocation and reorganization. The proximity of Building 45 to the pier, SEACON's berth, and the FPO-1 offices makes its continued availability to CHESNAVFACENGCOM very attractive, particularly in its planned function as a rigging loft. Building 169-Z provides over 50% of the facility's general inside warehouse space and is thus critical to the fulfillment of the facility's mission. If 169-Z is reassigned to DPDO, assignment of a replacement building is required in order to maintain present capabilities. Building 186 would be a suitable replacement. It has nearly 15,000 square feet of storage area and is well located on the pier adjacent to the other OCEI buildings, providing excellent accessibility.

5.3 Conclusion

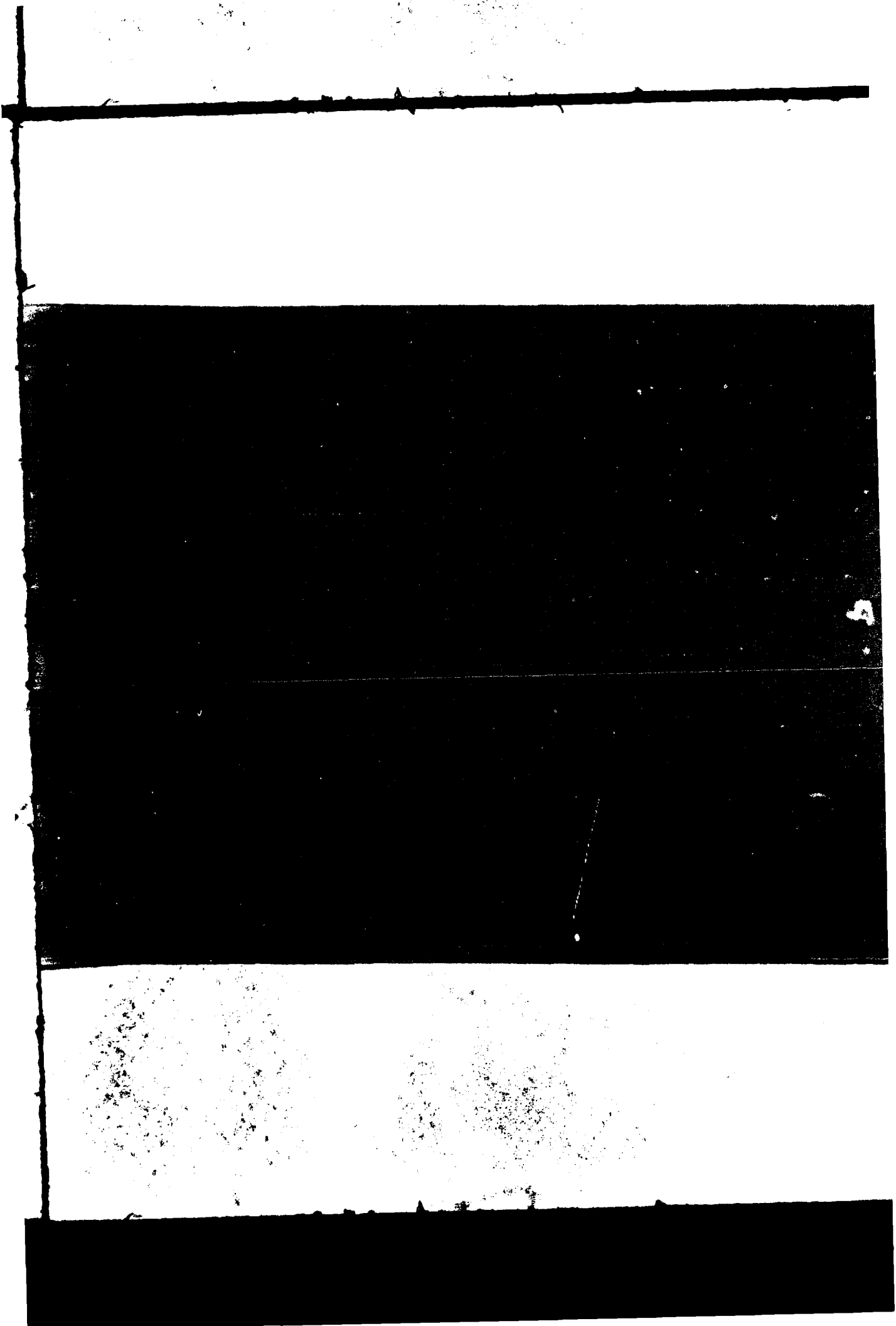
The results of the BFR indicate that the CHESNAVFACENGCOM designated facilities at St. Juliens Creek are sufficient in size and have the appropriate general characteristics to adequately support the OCEI and its mission requirements over the next five years. The site assessment confirmed the results of the BFR, but at the same time,

identified several of the facility's deficiencies: lack of basic utilities to numerous buildings, limited accessibility by material handling equipment, antiquated and energy-inefficient heating systems, deteriorated building components such as doors and windows, warehouse inefficiency and substandard habitability.

Internal CHESNAVFACENGCOM OCEI procurement plans indicate expanded support requirements, including: diesel repair capability, electronic repair capability, environmentally controlled storage capability, storage, and load test facilities for winches and other rigging equipment.

Analysis of the data gathered during the site assessment and OCEI procurement plans has resulted in a list of proposed repairs, modifications and additions, prioritized by importance, cost, and scheduled for implementation between FY84 and FY88. These changes are designed to rectify the facility's deficiencies and systematically upgrade the facility to meet anticipated needs. The funding required to accomplish the proposed changes averages approximately \$178,000 per fiscal year and can be obtained, in part, from O&MN and OPN sources, although OPN is not available until FY 1987.

The indeterminate futures of both Buildings 45 and 169-Z could result in degraded efficiency in the OCEI facility operation if there is a hiatus in the availability of one or both of the buildings or suitable replacements. Repeated relocation evolutions to accommodate decision changes will compete with daily activities of on-site personnel or result in excess expense for contract labor.



6.0 REFERENCES

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13. "Code of Federal Regulations, Title 29, Chapter XVII, Part 1910," issued by the Occupational Safety and Health Administration, Department of Labor to Distribution, effective 27 August 1971.

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